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ORIGINAL ARTICLES.

MOSQUITOES OF FLORIDA.

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To the casual observer all mosquitoes look alike, but a more intimate acquaintance reveals some very striking differences both in structure and habits. Some are beautifully marked with white or yellow stripes and bands, some with purple, while some are of more somber hues. Some have long slender legs, others short and stout. The legs of some are smooth, while others are beset with erect scales. Some have toothed tarsal claws, while others are without teeth. Some do not bite at all, some bite chiefly at night, some chiefly in the day, whereas some bite day and night. Some pass the winter in the adult and some in the egg stage. Some deposit their eggs on the water, and others deposit them on the grass or mud, where water is expected to come after rain or high tides. Some lay their eggs singly, others join them together into little batches, or "boats." Some breed only in fresh water, others only in salt. Some prefer clean water, others filthy. Some are migratory, others are not. Some transmit disease, while others do not. Of those that do, one kind transmits one disease and another another. But although there are many differences, there are also many likenesses, and all mosquitoes agreeing in certain important particulars are grouped together as a *genus*. While all mosquitoes of the same genus are alike in most respects, there may be some minor differences. The mosquitoes having the same minor differences are grouped together as a *species*. To illustrate: All malaria carriers have long palpi in both the male and female, and their larvæ have very short respiratory siphons. They constitute the genus *Anopheles*. But all *Anopheles* are not exactly alike. One kind has three black spots on the scales of the last vein, also white bands across the palpi. This is the species *crucians*, and is spoken of as the *Anopheles crucians*. Another of the *Anopheles* has white hind feet. He is known as the *Anopheles argyritarsis*.

It is an unwritten law among naturalists that the first who finds or describes a species names it. Frequently two or more naturalists in different parts of the world describe the same species, each one naming it and each giving it a different name, and later it is found that they both mean the same thing. When this occurs, the species is known by the name given it first and the other names are used as synonyms. To illustrate: A certain mosquito of the genus *Ano-*

pheles was described by Meigen and called *Anopheles maculipennis*. The same mosquito was described by Say and called *Anopheles quadrimaculatus*. It is now known as *Anopheles maculipennis*, Meig., the author's name being added to avoid confusion.

Just how many species there are in the world no one can say, for the reason that new species are being continually discovered, and even among those already known new differences are being found which sometimes transfers a group to another species, or even to another genus, e.g., the *Stegomyia fasciatus* was long thought to belong to genus *Culex*. Lieut.-Col. Geo. M. Giles wrote three years ago, "We have at least 300 (species) whose validity is hardly likely to be questioned. Moreover, as there remain large areas from which no collections have been received, a total of 500 species as the actual total is certainly an underestimate. And I should not be surprised were it found to rival that of butterflies." At the same time he gave a list from North America and Canada, based upon Theobald's Monograph, but with some additions. This list contained 36 species. New Jersey alone is now known to have that many. Even Florida has some 22 species, and how many yet undiscovered only future effort can determine.

The number of genera, into which mosquitoes have been grouped, is about 25. We have found in our State representatives of eight of these. The *Culex* includes about as many species as all the other genera together, more than 160 already being known. And if any genus may be regarded as the type from which others have diverged, the *Culex* has a very strong claim for that distinction. Selecting, then, the *Culex pipiens* as type of this typical genus, the life cycle is briefly as follows:

Mosquitoes pass through four stages of development—egg, larva, pupa, imago, or full-grown mosquito. However, the eggs may be laid, they hatch only in water; the wriggler and pupa pass their entire existence in water, leaving it only when the imago emerges from the pupa skin. From this it will appear that mosquitoes cannot breed except in water.

Though the wriggler lives in water, he is a true air-breather. Respiration is carried on by means of a respiratory siphon situated on the dorsal aspect of the last abdominal segment—a breathing tube near the end of his "tail." When at rest he floats at the surface, head downward, his breathing tube thrust out of the water. If disturbed, he quickly darts downward, but soon returns to breathe again.

Frequently he may be seen feeding at the surface, and actively turning his head and body this

way and that, but always with his breathing tube thrust into the air. At other times he goes down to feed, and may be seen mouthing over dirt, leaves, grass, or whatever happens to be in the water. His food consists of diatoms, desmids, spores of minute vegetable organisms, and minute animal life. He is a very voracious eater, and when food is scarce he will, in some species, eat other wrigglers.

He grows fast or slow, according to the abundance of food at his command, the temperature of the water he lives in, etc. In about a week, under ordinary conditions, he is grown, having moulted several times in the interim. He is now ready to change his skin once more, and out comes the pupa.

The pupa looks something like the mosquito with his head, wings, thorax, and legs all in a bag. With the change of state his habits also change. He doesn't grow any more, neither does he eat. His breathing is changed so that now it is through two little trumpet-shaped tubes that grow out from the thorax. His body seems to have become lighter. He quietly floats at the surface, except when disturbed. At such times he darts downward, but it is only by effort that he remains below the surface.

After remaining in the pupa stage from sixteen hours to three or four days, he bursts his skin on the back of the thorax and out comes the full-grown mosquito. During the hatching, which takes place in the water, the pupa skin serves as a boat to keep the emerging mosquito from drowning.

If he pass this milestone safely, he unfolds his legs, rests a bit, spreads his wings and flies away.

As this is the reproducing stage, the first thing is the marriage flight, which takes place usually on a still morning or evening. Some species mate in the middle of the day. The *Stegomyia fasciatus* frequently does.

After mating, as a rule, the males do not live long—say, two or three days (?)—and do not necessarily take food. They rarely bite, but may be seen occasionally sipping sugar, molasses, or fruit.

The females, on the contrary, after mating, go in quest of warm blood. It is believed they seek blood for the purpose of maturing their eggs, but it is well known that mosquitoes can, and do, reproduce without tasting blood. Indeed, it is doubtful whether one in a million ever enjoys that luxury. It seems, too, that in some species at least, once the female is fertilized she is always fertile and capable of producing a batch of eggs every time she gets a fill of blood. (See Thompson-Yates Laboratory Reports.)

Culices in Florida.—There are 11 species of *Culex* now known in the State. Nine of these breed only in fresh water, whereas the other two breed in the salt marshes. Of the fresh-water breeders the most common is the *Culex*

pipiens or "rain barrel" mosquito. This is the most universally distributed species we have. I have collected mosquitoes at nearly a hundred points in the State, and this is the only species that I have found at absolutely every place.

Among our far northern species, Mr. Howard mentions the *Culex impiger* as abounding in Alaska. It is also a native of Florida. This indicates under what varied conditions some species may thrive. The *Culex scholasticus* is interesting by reason of the fact that the only specimen so far found in America is one that I captured on the Santa Fe River, in Alachua County. The *Culex perturbans* is a not uncommon species, which once seen is easily recognized, and whose larvæ are as yet unknown. I once produced a batch of eggs by confining a female in a breeding jar, but none of them hatched. The *Culex serratus*, *Culex triseriatus*, and *Culex confirmatus* I have found only in swamps, and very few there. The *Culex consobrinus* and *Culex nanus* are among the less important species.

The *Culex taniorhyncus* and *Culex sollicitans* are our two salt-marsh breeders. They differ very materially from the fresh-water breeders, and deserve special mention. They are very much alike, both in their markings and breeding habits. The *sollicitans* is somewhat the larger and is marked with a purer white. The predominating species here is the *taniorhyncus*, but in New Jersey it is the *sollicitans*. This would seem to indicate that the latter is a more northern species. The former, by reason of its abundance and ferocity, is a great pest along the East Coast. My own observations on this species have been confined to that territory, and I have no data bearing upon its distribution elsewhere in the State.

Dr. John B. Smith, of New Jersey, has made a very careful study of these mosquitoes, and his researches have revealed some curious and interesting facts. In their breeding habits they differ entirely from the other common species of *Culex*. As before stated, they breed only in the salt marshes. They deposit their eggs, not on the water, but on the mud where water is expected to come after heavy rains or high tides. The eggs lie there and dry out till the marsh becomes flooded. When this occurs they hatch, but not all of them. Some dry out a second and third and even a fourth time, and, indeed, some of them pass through the winter to hatch the following spring. This is Nature's method of perpetuating the species. For if they all hatched the first time the marsh is flooded, and if then the water should dry up before they have time to come to maturity, they would be exterminated.

After hatching they grow rapidly, and in a week or ten days have become imagoes. Here is the curious feature: Some of them are males and some are females, and some are sexually immature females. For the present we will leave this third class—these neuters, so to speak—and follow the story of the males and females.

Soon after hatching they mate and anon are ready to deposit eggs again. By this time also the marsh has dried up more or less and is ready to receive them. They are deposited as before, and dry out as before, and the story continues. From this it is apparent that a continuous dry season would produce few mosquitoes. So also would a continuous wet season. But alternating wet and dry would produce the greatest abundance. It is apparent also that they come in crops, and that these crops appear a week to ten days after heavy rains or high tides. It is also clear that if the water that floods the marsh should be dried up in less than a week or ten days—before the wigglers could reach maturity,—they would perish, and this not infrequently happens, as a result of insufficient rain—enough falling to hatch them, but not enough to tide them over the wingless stage.

We will now turn to the neuters. As before stated, they are sexually immature females. The breeding instinct is not lost, but transformed into an instinct to migrate. So that soon after hatching they rise up from the marshes in countless millions, and fly, or, rather, drift, away with the wind. If the wind is landward, they fly inland, but if seaward they take that direction. Mr. Smith has found that they sometimes migrate as far as twenty miles, so that habitations that near their breeding places will be troubled with them more or less at times.

From a sanitary point of view the genus *Anopheles* stands second to none. They are the malaria carriers. There are about fifty species known. Five of these have been found in Florida. The *Anopheles crucians* is our most common species, but I have not found it by any means abundant. In no instance have I captured more than a dozen specimens in a single day. I have found the *Anopheles maculipennis* at only one point—Kissimmee. The *Anopheles argyritarsis* has lately been found in Key West, but Dr. Porter thinks it was imported there. The late Dr. Murray made exhaustive searches for specimens of *Anopheles*, even offering ten dollars for them, but failed to secure any. As the *argyritarsis* is indigenous to Cuba, Dr. Porter's view seems not at all improbable. Dr. Andrade informs me that he has found the *Anopheles punctipennis* and *Anopheles pseudo-punctipennis* in Jacksonville, but unfortunately no specimens have been preserved.

In their breeding habits, the *Anopheles* differ from the *Culex pipiens* in laying their eggs singly, instead of joining them together into boats. Their wigglers also, when at rest, float parallel to the surface. They do not fly very far, avoid sunlight, and seldom bite, except at night. They pass the winter as adults, hibernating in the colder latitudes, but they remain active all the winter here. Even their breeding, while it is retarded during our coldest weather, is seldom if ever arrested. And this explains the prevalence of malaria in winter.

The genus *Stegomyia* includes something over twenty species, but only the *fasciatus* is accused of transmitting yellow fever. And this is the only representative of the genus so far found in our State. He is the best known and most widely distributed species of *Culicida*. He has been described and redescribed and named and renamed until he has been christened no fewer than seventeen times. For a long time he was thought to belong to the *Culices*, and even now there is some dissatisfaction about his classification. This comes from the fact that he is the only species of his genus that transmits yellow fever—a difference which some think should be generic instead of specific.

The *Stegomyia fasciatus* is an inhabitant of tropical and subtropical countries. His limits are pretty accurately marked by the isotherm which forms the northern boundary of the lower austral life zone. This isotherm is determined by Dr. C. Hart Merriam as follows: At any given point, as Nashville, take the mean daily temperature above 6° C. or 43° F. Add them together for an entire year. If the sum amounts to 10,000 C. or 18,000 F., it marks the isotherm in question. The same rule applies in the southern hemisphere. At all points between these two isotherms, where it is not too dry, the climatic conditions under which the *Stegomyia fasciatus* thrives are fulfilled. The whole State of Florida is included within the humid division of this territory, which makes the ideal breeding place of this species. And, as a matter of fact, it is widely distributed throughout the State, being second only to the *Culex pipiens*.

The *Janthinosoma* is represented in Florida by a single species, the *musica*. This is a handsome wretch, rather above average size, with purple abdomen and legs and white hind feet. He is found in swamps and along water courses, frequently in great abundance. He it is that worries fly fishermen probably more than any other species.

The *Psorophora* is represented by the *ciliata*, our well-known "gallinipper." This is the largest species known. He is mostly of woodland habits, but occasionally ventures even to the heart of our smaller towns.

The *Melanoconion atratus* is a small insignificant species which I captured on the Santa Fe River. So far as I have been able to learn he has not been found elsewhere in America.

The *Wyeomyia Smithii* and *Megarhinus rutilus* are our two others, which bring the total number of species now known in our State up to 22.

Every one knows now that the mosquitoes of the genus *Anopheles* are responsible for the transmission of malaria. But just how it is done is not so generally understood. Briefly, the process is as follows: The hematooon of malaria develops in the red blood cell, feeding on its contents and growing, just as any other organism would feed and grow. If you can

imagine a worm in the heart of an apple, eating and growing till the apple is only a shell and the worm fills it up, you will have a similar process. If you can imagine the worm breaking into ten to thirty pieces, and each piece entering another apple, and living and feeding and growing as the first one did, you will still be following the process. When the hematozoon grows till it fills the corpuscle—when it is grown—it breaks into a variable number of pieces or segments, and the process of breaking out of the old shell and getting into the new is called *sporulation*. It is at this juncture that the patient has the chill. In tertian fever this sporulation takes place every forty-eight hours. In another two days they are grown and sporulate again, and another chill, and so on. From this it will be seen that if a patient has two crops maturing on different days, he will have a chill every day—a double infection.

It will be noticed that the above method of reproduction is without sex. Each individual germ, independent of every other, produces ten to thirty of its kind by breaking into so many segments. This asexual method of reproduction has for its object the increasing of the number of individuals. It prevails to a greater or less degree in all the lower animals and plants. But the malarial parasite, in common with many other organisms, has another means of reproducing—a sexual method. It is this sexual method that continues the story.

When the hematozoon growing in the red blood cell reaches maturity and sporulates, as before said, it breaks into ten to thirty segments. Now these segments are of three kinds, namely, male, female, and the asexual forms that go on reproducing, in the blood. As we have already seen what the asexual forms do, it now remains to see what becomes of the sexual forms—male and female. When sporulation takes place and all three forms are set free in the plasma of the blood, the sexual forms, like the asexual, proceed to enter other blood cells and feed and grow. But they do not sporulate. Their function is to disseminate their kind, to reach other hosts. And as they have adopted the mosquito as their intermediate host, they lie dormant till taken into the mosquito's stomach. Now when an *Anopheles* bites an individual thus infected with malaria, he takes into his stomach a great number of red blood cells. Some of these contain no germs at all, some contain the asexual, and some the sexual, both male and female. The blood cells are digested. So also the asexual germs. Not so the sexual. Instead they proceed to unite, the males with the females—to mate, if you please. In this act of conjugating the male and female elements fuse together, making a new body. This body now penetrates the stomach wall of the mosquito and here becomes embedded, forming a minute tubercle. By and by this tubercle breaks down, setting free in the body cavity of the mosquito a

host of minute organisms, called sporozoites. These get into the salivary glands of the insect, and when the mosquito bites another individual some of them are injected and proceed to enter red blood cells and grow and reproduce, and the story is repeated.

As before said, it is well known that mosquitoes transmit malaria and yellow fever. It is equally well known that they transmit the *Filaria sanguinis hominis*. They are also accused of transmitting the *trypanosoma* and the specific cause of dengue. Among the lower animals they transmit a disease of swallows similar to malaria. It is thought also that they transmit a certain dog disease of the *hematozoon* class. And it is altogether probable that diseases among cold-blooded animals may prove to be transmitted in the same way. There is an infinity of investigating yet to be done along these lines.

Some species, as our salt-marsh breeders, pass the winter in the egg stage, the adults dying when the weather gets cold, but leaving a bountiful supply of eggs deposited in the marshes ready to hatch out when the spring rains come. Others, as the *Anopheles*, pass the winter as adults. In the colder latitudes, with the advent of winter, the gravid females seek shelter in closets, cellars, barns, and other protected places, and go to sleep. When the warmth of spring returns they wake up and set about repeopleing the mosquito world. But I am convinced that the commoner species rarely, if ever, hibernate in this State—especially the southern part. During the winter just past, I found them out, not only through the winter months, but during the coldest of the weather. On two successive nights the thermometer went to 20° F., and on the intervening day my wife captured a large active specimen of *Anopheles crucians*. The thermometer then stood about 35° F. During the same cold spell I captured several other specimens of *Anopheles*, as well as *Stegomyia fasciata* and *Culex pipiens*. It is true they were not so abundant as when the weather was warm, nor were they so active, and if the temperature had remained low for any length of time they would, in all probability, have gone into hibernation. I also found active *Culex* wrigglers in January, but was not privileged to see them hatch. But on February 13 I found grown *Culex* wrigglers which were collected and hatched in breeding jars.

It has been definitely settled by Dr. John D. Smith, of New Jersey, that our two salt-marsh breeders are migratory, that they will fly 20 miles or less from their breeding places. Whether there are other species that migrate is yet to be determined, but it is certain that most of our commoner species are of very local habits, seldom flying more than a few hundred feet or yards at most from where they hatch. It is very important therefore for exterminating purposes to determine just what species we have to

contend with and how far they fly, for it is evident that in order to clear any given community of mosquitoes they must not be allowed to breed within a radius equal to the distance they may fly.

How long do mosquitoes live is a question often asked. It is not easy to answer, for the reason that in confinement they may not live their allotted time. And the span of life is probably greater in some species than others. The *Stegomyia fasciatus* has been kept alive for five months. So has the *Culex*. Mr. Smith thinks that the average life of our commoner *Culices* is some three or four weeks, and that *Anopheles* live somewhat longer. It is certain that they live long enough to reproduce their offspring, and that they breed fast enough to maintain the abundance, and that they bite often enough to transmit disease. And these are, after all, the vital facts.

Mosquitoes, like most other insects, and, indeed, most of the lower organisms, reproduce very rapidly and would, if unchecked, overrun the earth in a very little while. But nature provides checks and counter-checks for such rapid multiplication. Whether there are any creatures that prey upon the eggs or not, it is certain that a large per cent. of them never hatch. In the larval or wriggler stage they have many enemies. Minnows eat them, the larvae of dragonflies and beetles eat them, disease attacks them, fungi get on them and kill them; they die for lack of food, they sometimes eat one another, they get entangled in threads of spirogyra or under floating leaves and drown. The water dries up before they are grown and millions of them perish in this way. Finally, when they are ready to emerge from the pupa, the cast-off skin serving as a boat for the casting to take place in, frequently capsizes and the mosquito dies at the very threshold of existence. And those that do hatch successfully now have to take their chances among dragon flies, bats, lizards, toads, night hawks, and a host of other enemies.

Suppose that some progressive energetic town desires to get rid of mosquitoes, how will it go about it? Manifestly, the first thing is to determine what the prevailing species are, and where they breed. The State Board of Health may lend assistance here. This determined, it remains to control these breeding places. By far the greater number will be found to be neglected vessels of water on private premises, such as tanks, cisterns, rain-barrels, watering troughs, sagging gutters; even the water pitcher in the spare room may breed mosquitoes enough to supply the whole household. Let the council make it the duty of every citizen to keep his own premises clear of wrigglers, imposing, if necessary, a small fine for neglect of this duty, in order to make it effective.

Troughs and pitchers and vessels that can be emptied once a week need that only. Cis-

terns and tanks can be screened so that the mosquitoes can't get to them to lay their eggs. Or they can be oiled.

In addition to this, let every household have its artificial breeding place—a pail of water set in some shady place in the yard. Mosquitoes will come to it to deposit their eggs, instead of going to some place where they would be difficult to find or get at. These traps will catch most of the eggs to be deposited about the place. And as they require about ten days to come to maturity, the pails need only be emptied once a week and refilled. But they serve a better purpose still, than merely an artificial breeding place. They will be a most potent factor in education. They are so many aquaria where every man, woman, and child will acquire a practical knowledge of the breeding habits of mosquitoes—will come to know the eggs, the larvæ, pupæ, the time they require to hatch, the wherefore of exterminating them, and then, instead of having a few enthusiastic workers, the whole town will become enlisted and the mosquito is doomed.

Breeding places around town are to be controlled by the city authorities. Some places can be filled up. Others can be ditched. Fish can be introduced into some, or duckweed, and so on. The ingenious American will find ways and means if only he enlists in earnest.

To control the salt-march breeders in a State problem and cannot be discussed here. Nor does it concern places without the range of their migration—say, 20 miles or more from the coast. Nor need it deter any place from waging war against its local mosquitoes, thereby getting rid of disease carriers.

In conclusion, permit me to say that the time is coming, and not far distant, when the toleration of mosquitoes will be a municipal crime. That they can be controlled is no longer a question, but a demonstrated fact, and it now remains with us to decide whether we will be leaders or followers in this beneficent crusade.

Addendum: I have since found the *Culex sollicitans* breeding in a fresh water gully fifty miles from the coast. This may be the *sollicitans* studied by Mr. Smith in New Jersey, or it may be a closely allied species. The latter seems more probable.

SUICIDE; ITS CONSIDERATION FROM A MEDICAL STANDPOINT.

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FROM time to time the public mind is shocked by the reading of sensational accounts in the daily newspapers of persons who have committed suicide. Not only do such accounts have a baneful effect upon society at large, but they also have an injurious influence upon the minds of certain individuals in the community who are mentally unstable, and also upon those who had contemplated, or who had previously made at-

tempts to commit the act of self-destruction. In the former class of cases the act may be performed as the result of suggestion, accompanied by a sudden uncontrollable impulse to suicide; in the latter the newspaper account encourages the patient to make a renewed attempt to destroy himself with the hope that it will result successfully.

The most recent statistics show conclusively that suicide is steadily on the increase in this country. The fact is one of great importance and should not be looked upon with indifference, but rather with grave apprehension. As one of the functions of the medical profession is to safeguard the public health and welfare, it should inaugurate a thorough and scientific investigation of the causes and prevention of suicide with a view to devising adequate means of checking this great social scourge.

The *Journal of the American Medical Association* (July 30, 1904) referring editorially to the matter, states that statistics show that suicide is somewhat more than twice as frequent as it was ten years ago. During this period poison has taken the place of shooting in being the most frequent mode adopted for self-destruction. Carbolic acid is the poison most frequently used, as it can be readily procured. It is said that five out of every six persons committing suicide use this means of ending their lives. In 1891 the statistics showed that 3,531 persons had committed suicide, whereas in 1903 the number of suicides had increased to about 8,600. In the last thirteen years the total number of suicides was shown to be 77,617. The ratio between male and female suicides has become gradually less in recent years, so that in the last three years it stood at $2\frac{1}{2}$ to 1. The lessening of the ratio is thought to be due to the fact that women nowadays lead a far more arduous life than formerly, besides being brought into fierce competition with men in the struggle for their daily bread.

Prof. Bailly, writing in the *Yale Review* for May, 1903, made some interesting observations on the subject of suicide. He shows that of those who take their own lives, the married are slightly in excess of the single. He also states that of the different modes of suicide employed, shooting seems to be the most common in the country, and jumping from heights, poisoning, or asphyxiation by gas the most common in cities. As regards the sexes, men seem to favor shooting, while women prefer the use of poison. As regards the causes of suicide, he found the most common to be despondency, business losses, ill health, insanity, disappointment in love, and alcoholism. In general, women commit suicide at an earlier age than men.

It would appear from the consideration of the above facts that the increase of suicide is due, in great measure, to the modern strenuous life, and to frequently recurring social and political agitations.

In order that the study of the subject may be simplified and considered in a concise form, I will discuss it under three separate heads, to wit: (1) Suicide which occurs as the result of an imperative conception; (2) suicide of the sane; (3) suicide of the insane.

1. An imperative conception is a morbid suggestion or idea which is produced by an impression from within or without, acting upon the mind of the individual and exciting the reflex action of the brain and compels him, despite his desire or volition, to think or act in a particular manner. Persons who are under the influence of imperative ideas have, as a rule, a hereditary tendency to insanity. Being primarily mental, the imperative ideas occur under two forms—namely, motor and sensory. Under ordinary circumstances, persons who suffer from imperative suggestions are simply more or less annoyed by them, but they may become so unbearable that the victims may be led to commit suicide. It is reasonable to suppose that there is, in this class of cases, a deviation from the normal functioning of the brain. It should, however, be clearly borne in mind that in the large majority of cases the individuals are perfectly sane and thoroughly conscious of their thoughts and acts, but notwithstanding their will or desire are often absolutely incapable of resisting suggestions produced by the domination in the mind of imperative ideas. A sharp distinction must be made between persons who are conscious of the voluntary nature of their acts and those who perform similar acts under the influence of delusive ideas. In a small proportion of cases the impulse to suicide may be immediately followed by a loss of consciousness, during which the individual may endeavor to take his life by one means or another, and may even struggle with those who attempt to restrain him from carrying out his purpose. The impulse to suicide may be accompanied by an auditory hallucination in the form of a command, such as "Kill yourself," or as cited below, where the hallucination was that of hearing the strains of musical instruments. This, as well as other recorded cases, has a strong resemblance to certain cases of epilepsy.

The following case, mentioned by Dr. Wm. A. Hammond in his *Treatise on Insanity* (edition of 1883, p. 451), is admirably illustrative of the points I wish to emphasize:

"In another instance, recently under my observation, the impulse was renewed periodically as many as nine times, and three separate attempts to carry it out were made. In this case, as in others cited in this connection, there were no delusions, but at each recurrence of the emotional disturbance there were hallucinations of hearing, apparently, however, without any relation, so far as their character was concerned, to the impulse to self-destruction. The patient, twenty-eight years old, was the wife of a physician in a neighboring State, and had suffered from repeated attacks of intermittent fever. She had

been sleeping badly for several nights, and had been greatly troubled with frightful dreams. One night she woke with a sound of musical instruments in her ears, and with a desire to kill herself with a pair of scissors which she knew lay on a table in an adjoining room. Without disturbing her husband, who was sleeping by her side, she got up, lit a candle, and went to get the scissors. She recollected distinctly that while going into this room she had heard voices singing the words of a popular song of the day to an accompaniment of musical instruments. She recognized the fact that this was an hallucination, but the thought struck her that she would die to sweet music—a desire she had always expressed when the subject of death was discussed in her presence. She found the scissors and, opening them, said aloud, 'Now I am going to be happy,' instantly plunged the sharp blade into her left breast. The point entered just below the nipple, penetrating the mammary gland, but not entering the chest. Before she could repeat the blow, her husband, who had been awakened by her exclamation, entered the room and disarmed her. The wound was of no great consequence; her embonpoint had saved her life.

"Instead of consulting another physician, the matter was kept quiet, especially as it was thought by those about her that she had been excited by a large dose of quinine which she had taken that afternoon. The impulse had disappeared and she expressed the utmost gratification at the failure of the attempt. But exactly two weeks subsequently, while engaged in sewing one afternoon, she experienced a renewal of the impulse. Again she felt that nothing would give her so much pleasure as the act of suicide, but instead of a pair of scissors a penknife was indicated as the weapon. Again she heard delightful music. She immediately opened a small penknife which she had in her work-basket, and rolling up the sleeve of her dress, gave herself a deep gash across the bend of the elbow. She watched the blood flow in a stream from her arm, experiencing all the time the most intense satisfaction at what she had done. On the seventeenth day from the second attempt the desire to kill herself returned. This time, however, she was not alone, and she was prevented from sticking a two-pronged steel fork into her chest. The accession of this impulse was like the others, attended by the hallucination of music. After this she had, at intervals of fourteen days, five other recurrences of the impulse to kill herself, but as she was closely watched at the expected times she was unable to effect her purpose. Each was marked by the existence of a pleasurable feeling, and by hallucinations of music. She felt as though she could with an effort overcome the impulse, and she often reasoned in regard to it before making an attempt on her life. The emotion of pleasure, however, which she felt would reach its height with the perpetration of the act, swept everything

before it. The desire besame so intense that no influence but that of main force sufficed to prevent her from accomplishing her purpose. As she said to her husband one day, 'If God Almighty and all His angels were to beg me to refrain, I could not do it.' In the intervals she thanked those who had interposed for their good offices in having saved her life, but always reminded them that she knew she would make the attempt again and that they must be on the watch. The impulse lasted not more than fifteen minutes. During its existence she struggled to escape from those who held her, or from the bands which confined her hands.

"At the ninth recurrence of the impulse she attempted to cut her throat. Preparations were then made to place her in a private hospital, but in the meantime she suffered from an attack of pleural pneumonia from which she died."

As already observed, it is interesting to note in studying the history of this case the close analogy between it and those of certain cases of epilepsy in which the mental symptoms predominate. Thus we have an imperative impulse accompanied by an auditory hallucination, the attacks, in general, having a definite periodicity and lasting for approximately the same length of time. In other cases there may be vasomotor disturbances which occur simultaneously with the impulse, as in the case referred to below. The symptoms noticed by the patient were a feeling of heat in the right side of the face, redness and burning of one ear, together with a humming noise in the ear.

Some cases do not yield to the morbid impulse to suicide, either because they are restrained by religious motives, or through love of life. In other cases a mental struggle occurs several times before the individual either overcomes his scruples or attains sufficient courage to bring the act to a successful termination. In other cases the impulse may be at first slight, but at each recurrence of the impulse it is stronger than it was the time before, so that sooner or later the mind of the individual is, for the time being, under the complete domination of the imperative suggestion to commit suicide.

There is a strong emotional element in some cases, the impulse to suicide being accompanied by a feeling that nothing would give so much satisfaction as a successful attempt to end their lives. This condition of mind was well shown in the case already quoted, where the desire for death, with its accompanying pleasurable emotion, became so strong that nothing but main force could prevent the patient from consummating her wish.

The last two phenomena mentioned concerning the imperative suggestions to suicide—namely, that each successive impulse may be stronger than its predecessor, and that the actual desire for death may dominate the mind—may occur together in the same individual, and this fact is illustrated in another of Hammond's cases. In

this patient, when the impulse to suicide appeared for the first time, she was unable to gratify her wish as she could find no poison in the house. On the second appearance of the impulse she was walking in the street and immediately entered a pharmacy and endeavored to purchase two grains of strychnine, stating that she wished to use it for rat poison. The clerk refused to sell it to her and the impulse soon passed over. When the impulse recurred for the third time, it was much stronger than on the two previous occasions, and she procured and took a large dose of opium. On this occasion she felt that nothing could give her so much pleasure as taking her own life. As in this patient's case, certain individuals may be seized with the impulse to kill themselves, but no means of so doing being at hand at the time, the impulse and the desire to die soon pass away, only to return at some future period. In some cases, after the brain storm has passed over and the patient has not succeeded, or has been prevented from killing himself, a feeling of relief is experienced.

2. *Suicide in the Sane.*—The love of life is an instinct so deeply and firmly implanted in the human breast that only the most potent and what appear to be all sufficient reasons can induce man to put an end to his own existence. The love of life is universal in the animal kingdom and is the principal cause which impels the lower animals to protect their lives, to the best of their ability, from their natural enemies. Esquirol, who more than three-quarters of a century ago made a thorough and exhaustive study of suicide as it occurred under various forms and conditions in his day, gives two great underlying motives which operate in the production of suicide—namely, the wish to obtain "a good more precious than life," or the avoidance of "an evil more formidable than death."

According to Bucknill and Tuke, suicide is a perversion or a reversal of the natural instinct of love of life, leading to its destruction.

The history of suicide has its origin in very early times. It is recorded that many of the Japanese and Hindus voluntarily ended their lives as the result of religious fanaticism. Certain philosophers of Greece and Rome held and taught the doctrine that suicide under certain specified conditions was proper and justifiable.

The limits of this paper will not permit an exhaustive discussion of the subject of suicide in the sane. I will, however, give a brief summary of the causes and conditions which appear to be the most potent factors in impelling the individual to take his own life.

We not infrequently read accounts in the newspapers and hear it said by thoughtless persons that Mr. A. or Miss B. committed suicide owing to the fact that he or she was temporarily insane when the act was perpetrated. Such statements and opinions should be given but little weight

from a scientific standpoint until the facts concerning the alleged cause of the suicide has been thoroughly investigated. To say that because a man destroys himself he must necessarily be insane is not only untrue, but is manifestly unjust as regards the unfortunate sufferers from mental diseases. Out of justice, then, to the insane, this erroneous impression should be corrected, for, as already stated, many persons take their own lives every year who are perfectly sane and in whom the moral sense is unimpaired.

Esquirol, in his elaborate analysis of the subject, considers the motives which lead to the production of suicide in the sane under two heads, to wit: Acute or unpremeditated, and chronic or premeditated. I cannot do better than to take his classification, and for the sake of clearness and brevity place it in the form of a table.

Motives of Suicide in the Sane.—1. Acute or unpremeditated.

Terror.

Love.

Anger.

Jealousy.

Disappointed ambition.

Honor compromised.

Loss of fortune.

Love betrayed.

A sudden and unexpected trial, etc.

2. Chronic or premeditated.

Hatred or weariness of life.

Physical suffering.

Moral suffering.

Fear of being victim of mental disease.

General poor health.

Debilitating diseases.

Onanism.

Nostalgia.

Alcoholism.

Misery.

Wars (defeats in battles and sieges).

Political excitement.

Contributing Causes and Conditions Which Tend to the Production of Suicide.—Heredity, mental instability, great calamities. Transition from an active life to one of idleness and repose. Abandonment, forced or voluntary, of worldly pleasures. No fitness for the arts or sciences. Epidemics of suicide. Reading of successful attempts at suicide. Hot weather.

Imitation.—More apt to occur in girls who have not menstruated, or imperfectly so.

By a careful examination of the above table it will be observed that the causes which tend to operate in the production of suicide are both numerous and varied. The table also shows that there are certain contributory causes, either mental or physical, which tend to favor the act of self-destruction.

Occasionally certain individuals make significant remarks relative to voluntarily terminating their existence, or at other times they may even go so far as to feign attempts at suicide for the purpose of obtaining some desired object

which had been withheld, or because they had not been permitted to have their own way about some particular thing. This class of cases is largely made up of women of the hysterical type. When such persons actually make attempts at suicide, it is very rare that they have either the real wish or intention to end their lives, but only feign the act in order to obtain the object of their desire, or for the purpose of becoming themselves objects of solicitude and sympathy.

It is not an unfamiliar fact, that children have been known to commit suicide. Numerous cases have been recorded from time to time in medical literature. These children usually have a bad family history and are of an unstable nervous diathesis. The causes which lead to self-destruction in children may be a sudden morbid impulse, or fear of punishment, or the act may be performed for the purpose of revenge, as, for example, for not being permitted to have his own way.

It is a matter of record that there appears to be in some families a hereditary tendency to suicide. On reaching a certain age, each surviving member (usually male), is seized with an uncontrollable impulse to take his own life.

3. *Suicide in the Insane.*—As is well known, the impulse to suicide occurs as a symptom in certain forms of insanity, as is shown by the accompanying table:

Table showing forms of insanity in which the impulse to suicide are most liable to occur.

Melancholia.—Four out of five cases more or less suicidal. One in twenty dangerously so.

Melancholics with hypochondriacal symptoms.—May make attempts, usually of an abortive nature.

Melancholics, giving previous history of alcoholic excess.—One-half dangerously suicidal. lucination or delusions.

Acute mania.—May occur as the result of hal-Dementia, due to chronic alcoholism and cerebral atrophy.—66.6 per cent. determinedly suicidal.

Puerperal insanity.—25 per cent. actively suicidal.

Epileptic insanity.

Toxic insanities.

In general terms, suicidal attempts are made by the insane, either as the result of the loss of the natural instinct of love of life, or of a feeling of unworthiness to live longer. There may be a fear that some one is secretly trying to poison them, or that they are in imminent danger of being murdered. They may be terrified by some frightful hallucination of sight, or they may hear the voice of God commanding them to kill themselves. They may labor under religious delusion, and believe that it is God's wish that they should end their lives, or they may believe that they should sacrifice their lives for the sake of others, etc. Imperative impulses to self-destruction may occur as symptoms in the course, either of insanity or epilepsy.

Diagnosis.—When a physician is called to see a patient who has made an unsuccessful attempt at suicide, he should make a thorough inquiry into all the circumstances of the case in order to be enabled to come to a correct decision as to whether or not the attempt at self-destruction was due to an imperative suggestion and uncontrollable impulse to suicide, or was the result of a calm, premeditated, voluntary act of a man in a sound state of mind and understanding, or was that of a man suffering from insanity.

Treatment.—If it be shown conclusively, on careful investigation, that the patient's act was a motiveless one and performed under the influence of an imperative suggestion, he should not be held accountable for the act. In other words, should a patient of this type be placed under arrest on the charge of having made a criminal attempt to take his own life, the fact that the act was performed in a sudden and impulsive way, without any adequate cause or provocation, should be given due weight when the case is brought to trial. The cases of Dr. Hammond, already referred to, are typical of this class of impulsive patients.

A thorough examination should be made of the patient's mental and physical condition. Careful inquiry should be made into the patient's previous history with a view to ascertaining whether or not there is a hereditary tendency to insanity. Inquiry should also be made as to whether the patient had ever received a blow or fall on the head, or whether he had previously suffered from epilepsy, neurasthenia, hysteria, chorea, etc.

These patients should be kept under constant and efficient supervision, either at home or in some suitable institution. Change of scene and climate may be found to be of service. The mode of life and diet should be regulated. The general health should be improved, and should any disorder of the nervous system exist it should be treated. Any irregularities in the vasomotor system, if they exist, should be rectified, and the condition of the menstrual functions in women should receive careful attention. It is thought that considerable benefit may be derived in these cases by the use of psychotherapy, and in severer cases, by the use of hypnotism. By adopting a course of treatment along the lines above suggested, there might be some reason to hope that ultimately, in some cases, the tendency to the development of imperative ideas would gradually cease, and that, sooner or later, the will would be able effectively to control any sudden morbid impulse to suicide that might occur.

2. Concerning unsuccessful suicide of the sane little can be said. The law must be allowed to take its course in these cases. All that the medical profession can do is to endeavor to raise the moral tone of the community and to strive to create a strong public sentiment in opposition to such a revolting and cowardly act as suicide.

3. When a physician or surgeon is called upon to treat a patient suffering from any disease whatsoever, it is incumbent upon him to use "a reasonable degree of skill and learning" in the conduct and management of the case. Thus the medical practitioner on being called to see a patient, after making a thorough physical examination, pronounces the case to be one of lobar pneumonia. He then proceeds to give careful and detailed instructions concerning the nursing of the patient, such as when to give the medicine, the kind of diet to be used, the best method of obtaining proper ventilation, etc. Similarly a surgeon, after having examined a patient, makes, for example, a diagnosis of appendicitis. He then gives the patient the needful advice concerning his condition, and states whether or not an early-operation is necessary, etc. In the same way, when the family physician is called upon to treat a case of mental disease, he should make a thorough mental and physical examination of the patient. The patient's previous history should be carefully inquired into, and any facts concerning an hereditary tendency to insanity, epilepsy or alcoholism should be elicited. If, for example, the diagnosis of simple melancholia is made and the patient's relatives insist on trying to care for him at home, the physician should proceed to give the necessary advice as to the proper mode of life, diet, exercise, baths, medication, etc. Furthermore, bearing in mind that the impulse to suicide is frequently present in melancholics and is especially liable to be a prominent symptom in simple melancholia, the physician should not neglect any known means to safeguard the life of his patient, and should give the proper advice and the most minute instructions to the relative, nurse or person in charge of the patient concerning the requisite precautions to be taken. In giving such advice, he should carefully bear in mind the melancholic patient's mental attitude toward the subject of suicide. He must, as it were, place himself in the patient's place in order thoroughly to appreciate the all-important fact that, at times, all the patient's thoughts and all his powers of attention are concentrated upon the one subject of how he can successfully, and with the least possibility of detection, or interference from others, take his own life. It is equally important that all necessary precautions should be taken, even with those patients who have not shown any suicidal tendencies, as in some cases the morbid impulse to suicide may be aroused by the sight of a convenient means of self-destruction. It is very important that the patient's mental attitude toward suicide should be carefully explained to the relative, nurse or persons in charge of the patient. In short, every contingency should, as far as possible, be foreseen and every means by which the patient could, in any manner consummate the act of self-destruction should be anticipated and removed. It is only necessary to read the history of a dangerously

suicidal case of melancholia such as the one reported by Clouston (p. 108, first edition), in order to be able to appreciate the force of the above remarks. In acute melancholia the danger of suicide is greatest in the early stages of the disease. The attempts at suicide are more apt to occur in the early hours of the morning. Frequent threats concerning the act of self-destruction may be made before the attempt is actually undertaken. It is truly surprising with what calmness, coolness and cunning certain patients will develop the plan of suicide which they have decided to adopt.

The successful consummation of the act of suicide by an insane person is so distressing to the relatives and to those in immediate charge of the patient, and the publication of all the facts of the case causes such a shock to the public mind, that, as already intimated, every effort should be made to prevent the occurrence of such a catastrophe. The *Medical Record* of August 6, 1904, p. 222, referring to the increase of suicide in New York City, states that it is estimated that during the first six months of 1904 over 450 persons committed suicide, while 264 persons made unsuccessful attempts to take their own lives. There can be little doubt that many of these persons were suffering from mental disease at the time the act was committed. It is probable, however, that the lives of a certain proportion of these unfortunates might have been spared if the physician's instructions had been faithfully carried out and adequate precautions had been taken to prevent them from ending their lives.

In order that this point may be more clearly understood, I will, for illustration, choose at random from the daily newspapers accounts of persons who, being undoubtedly insane, have committed suicide.

A lady became despondent owing to her husband having had business troubles. As her depression continued, patient made an attempt to drown herself, but was rescued. Eighteen days later the patient, in the company of her mother and little boy, took a trip on a steamboat to a neighboring town. Shortly after going on board the boat, patient said that she was going to unpack her trunk, and kissing her little boy, requested her mother to go on deck with him. Patient was found dead in the stateroom a short time later, having hung herself with her little boy's nightgown.

A lady had suffered for some months from melancholia as the result of a bereavement. Her condition was such that she had to be kept under constant surveillance. Patient resided in a hotel and was in charge of a relative. On the afternoon of the suicide patient was agitated, complained of the heat, insisted upon having the windows wide open. After a time patient went into corridor, followed by the relative. Before she could be prevented, patient rushed to the window and jumped from it with a fatal result.

A lady suffering from melancholia was residing in a hotel in charge of a nurse. The day of the suicide the patient's dinner was brought to the apartment by the waiter. The nurse stepped to the door to take the tray. The patient immediately went to the window and jumped out, the fall resulting in her death.

On glancing at the histories of these patients it will be noticed first, that two of these patients were under the supervision of relatives, which are not, as a rule, suitable persons to take charge of patients suffering from melancholia, especially should the suicidal impulse be a pronounced symptom; second, that two of the patients were residing in high buildings, and that apparently no attempt had been made by those in charge to see that the windows were so arranged that, by the employment of some simple device, they could only be raised or lowered a few inches.

The lessons to be drawn from the study of the histories of these cases are obvious. If the patients are to be kept at home, or are to reside in hotels, they should be kept under strict and constant supervision, by nurses experienced in the care of cases of mental disease. No precaution should be omitted, no matter how trivial, or apparently needless, in order to prevent the patient from making an attempt to take his own life, or to do himself some bodily injury. If the relatives of such patients are unwilling or unable to provide proper and efficient supervision, the patients should be removed to some suitable institution for care and treatment. The windows, as previously alluded to, should be so arranged that they can only be raised or lowered a few inches, or the lower sash can be fastened permanently, and the upper sash lowered. All cutlery and sharp instruments, such as knives, scissors, razors, pins, needles, nails, tacks, etc., should be taken from the room. Nails and hooks on the walls should be removed, together with any rope or string with which the patient could hang or choke himself. It may be necessary to avoid the use of glassware, or it may be necessary to take away the patient's eye-glasses, for fear that he may break them and swallow the pieces, or use one of the pieces with which to cut himself. It is strongly advised, however, that such dangerously suicidal patient be placed in a suitable institution, as they are very difficult to manage in private practice.

Suicide which occurs in the course of acute mania or of the toxic insanities, notably the delirium of acute alcoholism, is usually due to terror resulting from illusions or some frightful visual hallucination, or to fear arising from delusion, such as the belief that some one is about to murder them, or is going to do them some serious bodily injury. As shown by the foregoing table, 25 per cent. of the cases of puerperal toxemia are actively suicidal. Fortunately, owing to modern advances in midwifery, resulting from the adoption of antiseptic methods, these cases come under observation far less frequently than

formerly. However, when it becomes necessary to treat these cases, the danger of suicide must not be overlooked.

As regards the other forms of insanity referred to in the table in which suicide may, at times, occur as a symptom, little here need be said, as patients belonging to these groups are not commonly seen in private practice, they having long since become inmates of institutions for the care and treatment of mental diseases, owing to the chronic nature of their malady, and the inability of relatives properly to care for them at home. It must not be forgotten, however, that there is a real danger of suicide, even among chronic melancholics, and in case such patients be still kept at home, efficient surveillance should always be a matter of prime importance.

If these few simple and practical suggestions concerning the prevention of suicide be faithfully carried out, there is reason to hope that the number of suicides among the mentally afflicted, and especially among those who live outside of institutions for the insane, will be materially diminished.

IMMIGRATION—THE MEDICAL EXAMINATION OF IMMIGRANTS AND WHAT THE NATION IS DOING TO DEBAR ALIENS AFFLICTED WITH TRACHOMA.¹

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NEW YORK is the gateway for about 75 per cent. of the total immigration into the United States. More than 600,000 aliens arrived at this port during the fiscal year ended June 30, 1904, nearly three times as many as at all other ports of the country combined. Eighteen per cent. were cabin passengers and 82 per cent. came in the steerage. In addition to the 600,000 aliens, more than 100,000 cabin and steerage passengers arrived, who, after primary inspection proved to be citizens of the United States.

The total arrivals at New York for the year named was about $4\frac{1}{2}$ per cent. less, and in the country at large about $5\frac{1}{2}$ per cent. less than the number recorded for the year preceding. Nineteen hundred and three (1903) was the record-breaking year of immigration. The next nearest approach to the two years mentioned was the year 1882. But the records for the past twenty-five years show a fairly heavy annual immigration. More than eleven million alien immigrants arrived in this country during that period—an average of nearly half a million a year, not counting the present year (ending June 30, 1905), which will exceed all previous records and probably reach the million mark. During these twenty-five years immigrants have come from as many countries, and the foreigners now in the United States represent about forty different

¹ Read before the Ophthalmological Section of the Academy of Medicine, May 18, 1905.

racers or peoples. It is not within the scope of this paper to recite the proportion or relative proportion of arrivals from all the different countries, interesting as a compilation of such statistics might be. One of the most striking and significant facts, however, may be noted: During the first fifteen years of the quarter of a century referred to, and for a number of years before, by far the largest number came from the German Empire—more than 25 per cent. of the total immigration from Europe was German. No other country was even a close second, though large numbers also came from the United Kingdom (England, Ireland, Scotland and Wales) and from Scandinavia (Norway, Sweden and Denmark). Southern Europeans, especially Italians, were in evidence, but it was not until about the year 1895 that Italy began to take the lead and to assume the position formerly held by the German Empire in adding, though less permanently, to the population of the United States of America. This position Italy has steadily held since that time, dividing the honor, however, during the last six years with Austria-Hungary and the Russian Empire. The total arrivals from Europe during these six years (to June 30, 1904) aggregated nearly three and a half millions, and of this number Italy, including Sicily and Sardinia, furnished nearly one million. Last year, and the year before, however, the German arrivals numbered upward of forty thousand and the Scandinavians more than fifty thousand.

In the race statistics the Southern Italians head the list, but their number is only slightly in excess of the Hebrews—chiefly from Russia, Austria-Hungary and Rumania.

There is, however, a considerable reverse current. It is estimated that the annual outgoing alien travel amounts to about 35 per cent. of the total annual immigration, and of this proportion Italians constitute about 50 per cent. I make this statement now, because of a general, but erroneous, impression that seems to exist regarding the number of Italians in the United States. The net increase in population by people from that country is just about one-half of that indicated by one-sided statistics. The outgoing travel varies in different years, according to the industrial conditions in this country. But it is safe to say, only about one-half of the Italians that come to our shores remain here.

The United States Immigration Service is very extensive, and very well organized. It covers more than fifty ports or places of entry, including points on the Canadian and Mexican borders. The business is conducted under the laws of the Federal Government, and regulations issued by the Commissioner-General, approved by the Secretary of Commerce and Labor. The larger or more important stations are under the immediate control of Commissioners—one for each station. At the smaller, or substations, the business is conducted by an inspector-in-charge.

At the port of New York there is one Commissioner, one Assistant Commissioner, one superintendent, three boards of special inquiry, about 75 inspectors and 300 clerks, interpreters, matrons and other employees, exclusive of the officers and attendants of the Medical Division and Immigrant Hospital.

The physical and mental examinations of all arriving aliens are made by medical officers of the U. S. Public Health and Marine Hospital Service, detailed by the Surgeon-General or by the Secretary of the Treasury. The medical officers thus detailed are responsible for the efficiency of the medical examination. This examination is conducted in conjunction with the inspection instituted by the Commissioner of Immigration, and in accordance with the requirements embodied in the official book of instructions, by direction of the Surgeon-General and approved by the Secretary of the Treasury.

The medical office in connection with the Immigration Service at the port of New York is divided into three parts:

(1) Line or primary inspection of all passengers arriving at Ellis Island; examination of all immigrants turned aside from the line for further examination; the supervision of the ambulance service and of the admission of immigrants to and discharges from the different hospitals (the Immigrant Hospital at Ellis Island and the Contract Hospitals in the city); the issuing of all medical certificates of examinations, the making of all records, and the ten thousand and one memoranda pertaining to the immigrants turned aside from the line for special examination, or treated in hospital.

(2) Care and treatment of patients admitted to the Immigrant Hospital, the supervision of the duties of the hospital employees and the care of the hospital buildings and grounds. Nearly four thousand patients, including 500 accompanying persons, were admitted to this hospital last year, and the number for the current year will be considerably larger.

(3) The examination of cabin passengers on board of incoming vessels (if necessary sending them to hospital, or to Ellis Island for further examination), and the examination of all steerage passengers requiring immediate attention, or ambulance transportation to hospitals direct from ship.

The Immigration Service is governed by the regulations already referred to. These regulations are based on various acts of Congress; the latest is the Act of March 3, 1903, composed of 39 articles or sections.

Under Section 1 there is levied a head tax or "duty of \$2 for each and every passenger not a citizen of the United States or the Dominion of Canada, Republic of Cuba, or the Republic of Mexico, who shall come by steam, sail or other vessel from any foreign port to any port within the United States, or by any railway or by any other mode of transportation from foreign con-

tigious territory to the United States. . . . The money thus collected shall be paid into the United States Treasury and shall constitute a permanent appropriation to be called the 'immigrant fund,' to be used . . . to defray the expenses of regulating the immigration of aliens into the United States."

Section 2 directs the exclusion of "all idiots, insane persons, epileptics and persons who have been insane within five years previous; persons who have had two or more attacks of insanity at any time previously; . . . persons afflicted with a loathsome or with a dangerous contagious disease."

Section 8 imposes heavy fine (\$1,000) or imprisonment against any person bringing into or attempting to land in the United States any alien not duly admitted by an immigrant inspector or not lawfully entitled to enter the United States; and Section 9 provides that there shall be paid to the collector of customs \$100 for each and every alien afflicted with a loathsome or with a dangerous contagious disease, if it shall appear to the satisfaction of the Secretary of Commerce and Labor that the existence of such disease might have been detected by means of a competent medical examination at the time of foreign embarkation; and no vessel shall be granted clearance papers while such fine imposed upon it remains unpaid.

Sections 20 and 21 provide among other things: That any alien who shall come into the United States in violation of law, or who shall be found a public charge therein from causes existing prior to landing, shall be deported . . . to the country whence he came at any time within two years (and under certain conditions within three years) after arrival at the expense of the person bringing such alien into the United States, or, under certain other conditions, at the expense of the immigrant fund.

Section 30 provides among other things: "That no intoxicating liquors shall be sold at any United States Immigrant Station," and Section 34, *that no intoxicating liquors of any character shall be sold within the limits of the Capitol building of the United States.*

The medical examination of incoming travelers at New York begins at the entrance of the harbor—at the State Quarantine, and is made by State officials. No passenger is detained there, however, unless he presents symptoms, has been exposed to, or is suffering from a quarantinable disease—smallpox, yellow fever, cholera, typhus fever, or plague.

Immediately upon the completion of the State Quarantine inspection the vessel is boarded by immigrant inspectors and medical officers of the Public Health and Marine Hospital Service, who examine the cabin passengers and complete their work by the time the ship arrives at her dock in the city, Jersey City, Hoboken or Brooklyn. Any cabin passenger found to be afflicted with physical or mental disability is immediately

certified by the medical officer for the information of the immigrant inspector, except such as may be detained on board or sent to the medical office or hospital at Ellis Island for further observation or treatment. The medical officer then examines any sick persons that may be under treatment in the ship's hospital, and any aliens among them are immediately transferred to the Immigrant Hospital, or to one of the contract hospitals, as the case may be. (The contract hospitals this year are the Long Island College Hospital and, for acute contagious diseases, the New York City Health Department Hospitals.) It is not a very uncommon occurrence for a ship to arrive with 20 cases of measles on board, and occasionally with 40 or more. There is also a considerable number of cases whose symptoms only develop after arrival at Ellis Island, and who are then transferred to the Health Department Hospitals. Cabin passengers entitled to land are released at the city dock, but all steerage passengers are carefully grouped in accordance with the lists or manifest sheets and numbers and then transferred by means of barges to the Immigration Depot at Ellis Island. Immediately after arrival at the island they are inspected by medical officers. The present arrangement consists of two lines for primary medical examination, with two medical officers and necessary attendants on each line. The first doctor takes his place about fifteen feet up the line and examines the immigrants as they come along in single file. He indicates by a chalk-mark on the immigrant's clothing that he has observed some physical or mental defect or suspicious symptom, and then allows him to proceed in line along with the apparently healthy ones to the second doctor at the end of the line. The second doctor repeats or supplements the examination of the first, everts all eyelids and turns aside for further or special examination (in the rooms provided for the purpose) each and every immigrant, including those marked by the first doctor, presenting signs or symptoms of disease, defects or abnormal conditions of any kind.

Those who are passed on the primary examination are immediately turned over to the Registry Division, where the immigrant inspectors begin their work, and aliens in the examination rooms are detained by the doctors only long enough to complete their examination; and until the necessary certificates, records, etc., are made for the information of the immigrant inspectors or boards of special inquiry, except those sent to hospital for treatment or for further observation.

Trachoma is one of the most troublesome diseases. As already stated, the eyelids of all arriving immigrants are turned (everted) and carefully examined; and all cases not clearly entitled to pass are detained for observation.

Trachoma is classified by the government as a dangerous contagious disease, and all aliens certified for this disease are excluded, and, as already indicated, a fine of \$100 is imposed for each and

every alien brought to this country afflicted with such disease in whom the existence of the disease might have been detected by means of competent medical examination at the time of foreign embarkation.

All cases of chronic trachoma have not been placed in this category, for the reason that in some cases it is difficult to say that the disease was not quiescent or apparently cured at the time of foreign embarkation, and a competent medical examiner might have been honest in his opinion that the disease was cured. Occasionally foreign medical certificates are presented to that effect, when examination of the case on arrival at Ellis Island shows the disease in active form—evidently a relapse or recrudescence of the old affection.

Among the thousands of arriving aliens at this port all forms of inflammatory diseases of the eyes are met with, from the simplest conjunctivitis to the most severe form of trachoma. The mildest cases of conjunctivitis are not detained; others, somewhat more marked, are admitted to hospital for further observation. Many of these improve rapidly, and after a few days are released from hospital. Some cases of the acute, follicular or slightly granular forms of conjunctivitis are held for a further period of observation or treatment—ten days or two weeks, or longer if necessary.

In city or local practice the diagnosis might not be of any material consequence. No particular harm would be done were the word trachoma applied to all the different forms of conjunctivitis. At Ellis Island, however, and everywhere in the Immigration Service, the diagnosis is of very great importance, for the reason that the government has defined trachoma as a dangerous contagious disease, and the law directs that all aliens thus afflicted shall be excluded from admission to the United States.

The following is an extract from the book of instructions issued by the surgeon-general for the guidance of officers detailed for the medical examination of arriving aliens: "For the purpose of carrying out the provisions of the immigration law, diseased, abnormal, crippled and deformed aliens may be regarded as divisible into two general classes. Class A. Those who are excluded from admission into the country by reason of the existence of a disease or abnormal condition of a character expressly declared by the law itself to constitute a ground for such exclusion. Class B. Those who present some disease or defect, physical or mental, which may be regarded as conclusive or contributory evidence to justify the exclusion, by the proper immigration officers, of the person in question as an alien 'likely to become a public charge.'"

In accordance with the present law, aliens of Class A must fall within one of the four subdivisions of that class, viz.: (1) Persons suffering from dangerous contagious diseases; (2) persons suffering from loathsome diseases; (3) in-

sane persons (also epileptics, under the law of 1903); (4) idiots.

Trachoma is given first place in subdivision of Class A.

"The object is not only to prevent the introduction into this country of a communicable disease, but also to keep out a class of persons from whom so large a proportion of the inmates of institutions for the blind and recipients of public dispensary charity are recruited. For the purposes of this circular, the term 'trachoma' is used to designate a diseased condition of the conjunctiva, characterized by a mucopurulent discharge, firm, persistent hyperplastic granulation, and exhibiting a tendency to be associated with atrophy of the conjunctiva with scar formation, roughened corneae, adhesive bands of cicatricial tissue, entropion, pannus, or even more marked evidence of inflammatory processes, not due to external traumatism. Examiners are therefore instructed to regard as trachoma any case wherein the conjunctiva presents firm, well-marked granulations which do not have a tendency to disappear when the case is placed in hygienic surroundings a few days, or does not yield rapidly to ordinary treatment, even though there be no evidence of active inflammation at the time of the examination, nor appreciable discharge, nor as yet signs of degenerative or destructive processes. Examiners are also instructed to regard as a possible case of trachoma any person who presents an active inflammatory condition of the conjunctiva, accompanied by a discharge, or a thickened infiltrated condition of the lids, and to hold such until, by treatment or otherwise, the examination may be satisfactorily concluded. Cases of acute inflammation of the conjunctiva presenting a granular appearance of the lids should be regarded as suspicious and final judgment be withheld until the case has been under observation for a period of at least two weeks.

"In view of the present state of medical science as to the etiology of trachoma, an immigrant should not be regarded as suffering with that disease whose conjunctiva presents only a granular appearance and a discharge, both of which rapidly and entirely disappear."

Last year, according to the report of the Commissioner-General, 7,994 aliens were excluded at the seaports of the United States, including 1,560 afflicted with a loathsome or dangerous contagious disease, and the report of the writer, published in the same volume (pages 106 to 119, inclusive) shows that 787 of these were certified and excluded at the port of New York on account of trachoma. The total number certified at this port for all causes was 4,802, but they were not all deported. The reason why all the trachoma cases were excluded, while a large proportion of persons certified for other diseases were landed, is indicated by the difference between the two general classes already referred to.

In cases certified under Class A—(1) persons suffering from dangerous contagious dis-

eases, (2) persons suffering from loathsome diseases, (3) insane persons, also epileptics (under the law of 1903), (4) idiots—the law is mandatory. In those placed in Class B and certified for a disease or abnormal condition, "affecting ability to earn a living" (as the certificate is usually worded), the immigration officers, or boards of special inquiry, have exercised discretion; the medical certificate in some cases being regarded under the law as contributory evidence only, or, as one of several factors constituting a condition which renders an alien "likely to become a public charge." For example, of 1,231 aliens certified for senile debility, a majority was landed; certain favorable factors in or about many of these cases outweighing that of the medical certificate to such an extent that in the judgment of the board the individuals affected were not likely to become public charges.

If, on the other hand, upon special inquiry an alien is denied admission on the ground that he is likely to become a public charge, he has a right of appeal to the department, through the Commissioner of Immigration. Friends or relatives may offer guarantee or bond against the likelihood of the alien becoming a public charge.

It is proper to say, however, that under the regulations of the Immigration Service, "no application for admission under bond of a debarred alien will be considered, except in cases in which the deportation of the alien in whose behalf such application is made would involve the separation of immediate members of a family."

Thus, gentlemen, I have given a brief outline of immigration and the medical work at Ellis Island.

Trachoma, we are agreed, is a troublesome disease. We also agree that it is a dangerous contagious disease, but it was not thus classified by the government until the year 1897; and to the specialists of this country, and chiefly to the members of this ophthalmological section of the New York Academy of Medicine, is due the credit for every deportation on account of trachoma, that has been made since that time.

After some correspondence with Surgeon-General Wyman in 1897, and, in reply to a request as to whether trachoma shall be certified as a dangerous contagious disease, a letter was received from him transmitting and favorably quoting the then most recent literature on the subject, all agreeing that trachoma is a dangerous contagious disease.

Trachoma thus became an excludable disease, and since the year referred to thousands of aliens afflicted with trachoma have been certified at the port of New York and excluded from landing.

There are not now quite so many cases of trachoma found among arriving immigrants, which may be attributed to the fact that the steamship companies themselves are making considerable effort to prevent the embarkation of would-be immigrants, suffering from disease of the eye. This is especially the case at Italian

ports where medical officers of the Public Health and Marine Hospital Service are on duty, and recommend the rejection of hundreds of applicants for passage to the United States.

"SORE THROAT": AS CAUSED BY SYSTEMIC CONDITIONS.¹

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THE term sore throat designates a symptom and not a disease. It is a clinical manifestation of pathological conditions varying from the most trivial indisposition to very severe illness, which sometimes terminates fatally. The physician cannot with safety, therefore, dismiss his patient with a gargle and say it will be all right to-morrow. In this paper I shall not discuss sore throat in connection with diphtheria, scarlet fever or other specific inflammations, but shall allude to it especially as seen in tonsillitis, peritonsillar abscess and general systemic disorders.

In a mild form sore throat is more or less present in all mouth-breathers. In these it is caused by an abnormal drying of the mucous membrane. The cold air reaches the throat without having been properly warmed and moistened (as in nasal respiration), acts as an irritant, produces hyperemia, and causes much discomfort. This result is augmented by the mechanical irritation of dust, gases and solid substances suspended in the air. When the coryza has subsided, or other impediment to nasal breathing has been removed, the irritation subsides and resolution is at once established.

The sore throat of inflammation of the tonsils and pillars of the palate is exceedingly painful. The pain is felt in the throat, at the angle of the jaw, and frequently in the ear. The tissues are stretched and compressed by the muscular movements of swallowing and articulation. When the swelling is great, ordinary respiration adds to the discomfort. The relation of tonsillitis to rheumatism is too well established to need comment at this time. In tonsillar and peritonsillar abscess the pain becomes most excruciating. The swelling near the angle of the jaw makes it impossible to open the mouth sufficient for the patient to clean the teeth and gums; hence the mucous membrane of the tongue and buccal surfaces becomes coated with a dense white or yellow fur, the breath fetid and the patient is unable to masticate and swallow. In some cases the pus burrows in the neck, or from pressure necrosis the blood vessels are involved, when severe hemorrhage occurs, sometimes causing death. The indication is clearly to open the abscess. But it is no easy matter to locate the point most likely to reach the pus cavity. The patient's inability to open the mouth, and the swollen and distorted tissues so obscure the land-

¹ Read before the Northwest Medical Society of Philadelphia, October 25, 1904.

marks in the tonsillar region as to make examination and operation very difficult. The pus sack may be multiple, so that if one pocket is opened others remain, and little or no relief will be had.

Ill results from opening peritonsillar abscesses are few and infrequent, yet of such grave importance as to make the physician anxious in each case. An anomalous artery, or one displaced by the swelling, may be cut. There is another condition not often seen, but momentous in its import when present—that is, the patient may be a bleeder. When the pus cavity is deeply situated, there is much congested tissue to cut through and much oozing may follow. I well recall an experience of this kind. The patient afterward denied a history of being a bleeder. The cut was made through a thick congested layer of overlying tissue; pus mixed with blood escaped. Then a constant hemorrhage kept up for an hour or more—no spurting from an artery or stream as if from a vein, but an oozing from the entire cut surface—until the patient was faint from the loss of blood. Adrenalin and astringents had not effect; they were instantly washed away by the bleeding. The hemorrhage was finally checked by injecting a 20 per cent. solution of alumol, by means of a long canula, directly in the pus cavity and holding a tampon, on which had been dusted alumol in powder, against the cut surface.

There is a type of sore throat caused by insufficient elimination. The action of the bowels, kidneys and skin are sluggish and the waste products of metabolism are retained in the tissues and circulation. These in time further interfere with normal metabolism and eventually compounds of varying degrees of oxidation are held in the blood. Some act as irritants, others as distinct poisons. Poisonous substances resulting from intestinal fermentation are absorbed and they also add their weight to the vicious circle.

It has been shown that the waste products circulating in the blood cause the peripheral vessels to contract; this accounts for the chilliness complained of by the patient. As the body contains the same amount of blood as before the contraction of the peripheral vessels, other parts must contain more than normal. It is evident that those areas in which the blood vessels are least supported by the surrounding tissues will be the first to yield, and that is in the blood supply to the mucous membranes. Any internal part of the body may suffer, but the mucous membranes of the upper respiratory tract do so most frequently. This is caused by the irritation produced by the dust and other impurities in the air breathed, but more particularly by the effort of nature to eliminate by the respiratory function substances retained on account of insufficient action of the other emunctory organs.

In some there will be a history of rheumatism, but many have never had an attack of inflammatory rheumatism, nor have there been articular

inflammations in the family. Careful inquiry, however, will elicit the information that there is more or less tendency to constipation, bilious attacks, gastro-intestinal disturbances, aches and pains, which are constant, intermittent or neuralgic in character and changing from one part of the body to another. An examination of the faucial region shows congestion of the mucous membrane, edema, involving more particularly the submucosa; the lymph follicles stand out prominently, especially the chain of glands behind the posterior palatine arches. At times this is so marked as to give the appearance of a secondary arch. This ridge is partially denuded of epithelium and its general aspect is of a "slightly raw and granular appearance." The swelling often extends upward, presses upon the Eustachian orifices and partially or wholly prevents the interchange of air in the tympanum. In chronic cases Eustachian catarrh is produced and progressive deafness follows. The membrane over the base of the tongue, epiglottis and even extending into the larynx may become edematous and thickened. Difficulty of speech, varying from slight disphonia to aphonia, is the result.

Attacks are precipitated by various causes. Sudden changes in the atmosphere and, more particularly, in the relative humidity, drafts blowing directly upon certain parts of the body, and wet feet are important causative factors. Overwork, worry and prolonged fatigue are equally productive of this condition.

Old injuries, as bruises, sprains and fractures, are likely to be the seat of pain during atmospheric changes. Muscles subject to prolonged strain are equally liable to be the seat of complaint. For this reason singers and public speakers are prone to chronic sore throat and hoarseness. The strain to the pharyngeal and laryngeal muscles is not caused so much by prolonged speech as by improper articulation, added to by mouth-breathing and outdoor speaking.

The symptoms complained of in these auto-toxic sore throats are out of all proportion to the local conditions as revealed by pharyngeal and laryngeal examination. Indeed, in some cases the appearance is not greatly abnormal, yet the patient complains of great discomfort, or even of excruciating pain. In not a few cases the muscles are involved more than the mucous membrane overlying. In these there is a distinct myalgia. These conditions have been variously called throat aches, throat neurosis and neuralgia of the throat.

The treatment is active elimination. All remediable measures tending to increase the action of the glands of the gastro-intestinal tract, the kidneys and the skin will be indicated. Tonics and alteratives to tone up the system may prove necessary. At the same time local applications are valuable. No routine formulæ can be adopted. What is soothing in one is a distinct

irritant in another, and in the same individual frequent changes may have to be made. The general indications are, soothing applications at first to allay the irritation, and afterward stimulating medicaments to absorb the exudation in the submucosa.

Delay in beginning, or neglect during treatment, will almost surely lead to organization in the connective tissue of the submucosa and, as in all fibrous tissue resulting from inflammation, contraction will follow. The blood vessels will be pressed, their lumen lessened and the blood supply will be gradually cut off. Atrophy of the epithelium and mucous glands will follow. The condition will be permanent; no treatment can restore the membrane to its normal function.

MEDICINAL TREATMENT OF AFFECTIONS OF THE THYROID GLAND.¹

BY CHARLES R. GRANDY, M.D.
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THE whole treatment of disorders of the thyroid gland has been revised, since the discovery that, although it is a ductless gland, it has a secretion, and that his secretion has a vital influence on the whole organism. Before this discovery we merely knew that there was such a gland, and that it sometimes greatly increased in size and pressed on neighboring organs. But the symptoms of such a goiter are variable and must be attributed to other causes than pressure alone, although pressure symptoms still make up a very important group. The other symptoms are dependent, as we shall see, on an increase or a decrease in thyroid secretion.

Physiology.—It has been found that a dog, after extirpation of the thyroid gland, soon develops tetany and dies, but that symptoms can be prevented by grafting a thyroid into the dog's peritoneum, or by injecting or feeding him with fresh or dried glands. Though thyroidectomy seldom produces tetany in an adult man, it is apt to be followed by myxedema, while it will cause dwarfing and cretinism in a young child or beast, but both of these diseases can be checked or prevented by the administration of thyroid. The difference between the symptoms in dog and man is explained thus. In the dog, and occasionally in man, the thyroid, the accessory thyroids, and the parathyroids are all removed, in man the accessory thyroids are usually left, and these develop and do at least part of the work of the thyroid. Partial thyroidectomy, as a rule, produces no symptoms, the remnant of the gland hypertrophying and doing the work of the whole. Thus a total absence of thyroid secretion produces the symptoms of tetany and death. A marked decrease in secretion produces a slow, irregular pulse, a dryness of the skin and hair, followed soon by a puffiness, which does not pit on pressure, an increase in weight, and a marked dulling of the mental faculties—the symptoms of

myxedema. In young children it interferes with the growth, the face becomes large and bloated, the abdomen swollen, the limbs thick and short, while the mind is idiotic or imbecile—the symptom-complex of cretinism. On the other hand, the administration of an excessive amount of thyroid extract produces a rapid feeble pulse, a loss of flesh and nervous and mental excitability, accompanied by sleeplessness and tremor.

What then is this thyroid secretion and how does it act? Baumann was able to isolate from the gland a substance which contained iodine and which would prevent tetany in thyroidectomized dogs just as well as the whole gland. This iodothyrene is certainly one of the thyroid secretions, whether it is the only one is still an open question. It is supposed either to neutralize directly some of the toxic substances, which are produced in metabolism, or to do so indirectly by stimulating the body cells to perform that work. In either case a deficiency in this secretion allows the toxic substances to accumulate and produce the symptoms already referred to. Like all other glands, the thyroid tries to supply just enough secretion to meet the demand made upon it, and this may cause a temporary increase in size, as is well shown when a part of the gland is removed and the remainder hypertrophies. Consequently we find the thyroid largest in young children, at the age of puberty, and in pregnant women, in which cases metabolism is increased and there are more toxic substances to be gotten rid of. The thyroid secretion also seems to have a special influence on the generative organs, it having been both clinically and experimentally observed that lack of this secretion would produce sterility, but former myxedematous women have conceived under the administration of thyroid extract. While this applies especially to women in whom troubles of the thyroid most frequently occur, total thyroidectomy is said to produce impotence in men. As already mentioned, thyroid secretion has a decided influence on metabolism, large doses increasing the urinary solids and causing a loss of flesh, whereas a lessened thyroid secretion is followed by a decrease in urinary solids and an increase in body-weight.

I will now give a brief clinical discussion of the affections of the thyroid gland, along with some general remarks as to their treatment.

(a) We may have a decrease in the size of the gland, which may be congenital or from atrophy, or following removal. Here we have too little secretion, and may have cretinism, if the trouble starts in infancy, or more or less marked symptoms of myxedema, if it starts later on in life. The treatment is naturally thyroid extract, but its administration must be watched and the dose decreased or stopped when the pulse becomes rapid or weak. After such an interruption the drug is to be repeated to ward off returning symptoms.

(b) We may have an enlargement of the gland which, when marked, is usually termed *goiter*.

¹ Read before the Norfolk Medical Society, March 14, 1905.

(1) *Physiological Enlargement.*—There may be a temporary enlargement, produced to supply an extra demand for thyroid secretion, which disappears when the demand is relieved. Such a hypertrophy is sometimes seen at the age of puberty or during pregnancy, and can be looked upon as physiological, and hence calls for no treatment further than the relief of the intestinal auto-intoxication, which the thyroid may be working to overcome. In some cases, especially during pregnancy, when the auto-intoxication seems to be getting ahead of the thyroid and there are beginning symptoms of toxemia, thyroid extract has been given and good results are reported, though I have had no personal experience with such cases.

(2) *Enlargement with Decreased Secretion.*—If we remember that the amount of secretion is entirely dependent on the number and activity of the secreting cells, we can readily see that an enlargement due to an increase in connective tissue, to a collection of colloid material within the acini, or to a new growth would tend to decrease the secretion. This we find to be true in the majority of cases of goiter that come to us for treatment, though this decrease in secretion may be very slight. Such patients are generally quite fleshy, are easily tired, and have a slow pulse-rate, symptoms which distinguish them from patients with an excessive thyroid secretion, who have a rapid heart action, are nervous, and usually thin. When the secreting cells have been almost entirely destroyed by an inflammatory process, a cyst, or a new growth, we may have all the symptoms of myxedema or cretinism accompanied by a goiter.

There are certain regions, notably in the Alps, where goiter is endemic, but sporadic cases may appear anywhere. The etiology of these endemic cases is unknown, but it is interesting to note that Oswald found a deficiency in iodine in thyroids from such regions. It looks as if these thyroids in the first instance hypertrophied in response to a demand for more secretion, and that this hypertrophy persisted with retention of colloid in the follicles and with an increase of connective tissue. In the early stages of such a goiter, before much connective tissue has formed, the administration of thyroid extract will take the work off the gland and thus allow it to lessen in size. The good results obtained from the use of the iodides in such cases is also probably due to the artificial supply of the iodine, which the gland needed. As might be expected, neither of these remedies will reduce the size of the gland in old fibrous cases. In regions where goiter is endemic, we also find many cases of cretinism, cases in which the thyroid has apparently found its task too great, and has given up and atrophied, instead of hypertrophying.

The sporadic cases may also start as a compensatory hypertrophy or from an inflammation, which occasionally goes on to pus formation. I have seen two cases appear first in women past

middle life, who had both had hysterectomy performed for fibromyoma. One of these apparently started as an inflammation, and probably developed into a malignant growth later. The other started in the same way, but was lost sight of.

In this variety of goiter the increase in the size of the gland may be great, but it is most often irregular, being sometimes confined to one lobe, or even the isthmus. Possibly the most important symptoms are due to pressure on the trachea, esophagus, vagus or the arteries and veins of the neck, which are frequently displaced. The rational treatment is consequently the removal of that part of the gland, which is exerting the pressure, regardless of the cause of the goiter, provided it be not malignant, as it is very hard to remove malignant growths of the thyroid entire, and operation may only hasten the progress of the disease. The operation is nevertheless always a dangerous one, the percentage of deaths on the table in thyroidectomy, being unusually large. There is, however, no reason to advise against thyroidectomy on account of the fear of myxedema, as this seldom occurs when a part of the gland is left, and can in any case be prevented by the use of thyroid extract. In cases due to an increase of colloid in the follicles, the size of the gland can be reduced by gentle massage and electricity, but as these measures are liable to throw an unusual amount of thyroid secretion into the circulation, we must watch for symptoms and be ready to counteract them by the use of arsenic. In this group of cases it is always well first to try the effect of thyroid extract and iodine, as they will be of benefit, if the formation of connective tissue has not gone too far.

(3) *Enlargement with Increased Secretion.*—Here we have a real increase in the secreting cells of the gland. These cases are distinguished by a rapid, weak pulse, nervousness, anemia, loss of flesh, and, when severe, by tremor, exophthalmos, and dilatation of the heart. They may also be accompanied by gastro-intestinal disturbances, or by albuminuria or glycosuria. The enlargement of the gland is not, as a rule, so great as in the last group of cases, and is more apt to be symmetrical. Indeed we are often called in to care for the nervous symptoms, and first discover the enlarged thyroid on careful examination of the patient. This was pointed out to me by the late Dr. Christopher, of Chicago, who showed me some slightly enlarged thyroids in children, and assured me that such enlargement was frequently found in thin, nervous, precocious children, who improve greatly on large doses of arsenic.

The etiology of this affection is still very obscure. It was formerly classed as a disease of the nervous system, the enlargement of the thyroid being considered a rather unimportant symptom, but as we have been able to produce all the symptoms by large doses of thyroid extract and relieve them by removing a part of the gland,

the hyperactivity of the thyroid is now considered the root of the trouble. What causes the primary increase in the thyroid we do not yet know, but it usually occurs in young women and often seems to be produced by some disturbance in uterine function.

The most pronounced form is known as exophthalmic goiter, Graves' disease, or Basedow's disease, and has long been a standing puzzle to the profession. The symptom of exophthalmos has been especially noticed, and, in my opinion, has had far too much stress laid upon it, as it is not near so troublesome as the tachycardia and nervous excitability which accompany this disease. Besides, as I have pointed out, we may have hypertrophy of the thyroid with increased secretion, but no exophthalmos, and exophthalmos without hypersecretion of the thyroid, as in tumors, aneurism, or hemorrhages of the orbit. In all events little good can be done a patient with Graves' disease by simply trying to relieve the exophthalmos, for we must try to get at the underlying causes. Since there is already an excess of thyroid secretion, the administration of thyroid extract will only add to the symptoms, and should never be used in this disease except possibly as a diagnostic measure. Our aim should be to decrease the amount of thyroid secretion in the body, and the most natural method is to remove a part of the gland, as has been successfully accomplished by various surgeons, notably the Mayos. The operation is, however, even more dangerous than that for goiter with lessened secretion on account of the dilated and irritable heart, and should be undertaken only by a quick, thoroughly competent surgeon. Medicinal treatment has been notoriously unsatisfactory, each writer having his own favorite drug, which often proves useless in other hands. Some recommend arsenic, others iron, digitalis, strophanthus, belladonna, ergot, bromides, chloral, thymus or adrenal extracts. Some believe in the application of cold, while others say that nothing compares with galvanism. The truth is that all these remedies are empirical, or merely to relieve temporarily some symptom, when their use is to be commended. Add to these a bland diet, with change of scene and climate, and possibly the rest-cure and hydrotherapy for the nervous symptoms, and we have nearly everything we can do medicinally. There is, however, one other remedy, which has been recently introduced, and which certainly deserves a trial. It is the attempt to destroy the excess of thyroid secretion by the introduction of substances which it normally neutralizes. This is done by the administration of the dried blood of animals, whose thyroids have been removed, and which should therefore contain a large amount of these substances. Good results have been reported, though it is still too soon to be sure of permanent benefit. As it is our only rational medicinal treatment, however, it should be tested thoroughly.

Summary.—We may have goiters with exces-

sive secretion or goiters with too little secretion, which can as a rule be distinguished by the pulse rate. When the symptoms are not too urgent try thyroid extract and iodine in the latter and rest treatment and blood from thyroidectomized animals in the former class, but, if these measures are of little avail and the symptoms demand it, do not hesitate to call on a competent surgeon to partially remove the gland.

A VERY SIMPLE METHOD TO LOCATE THE STOMACH.

BY MARK I. KNAPP, M.D.,
OF NEW YORK.

"NOTHING new under the sun" and, possibly, the very simple method of locating the stomach, I am about to describe here, may have been observed before. But as I have not seen it mentioned or heard of it before, I shall here describe it.

In a few words I will review the other methods. Palpation is an art, and, when once mastered, is an excellent method. However, the thickness of the abdominal wall might have some negative influence, although to the expert palpator there will be very few cases that would present difficulty in palpation. Percussion is also of great benefit and practice is necessary to differentiate the resonance of the stomach from that of the circumlying and, at times, also overlying intestines. There is another method of percussion to which I would like to call attention. This I might call "soundless" or "vibratory" percussion which is performed in this way: The percussing finger very lightly taps on the finger that is on the abdominal wall so that the percussing finger elicits no sound. The finger used as plessimeter perceives different vibrations, according to whether the area percussed over has greater or lesser resonance. This method is a very delicate one, gives excellent results and is easily acquired.

Inflation by air or carbon dioxide has its advantages and its drawbacks. The inflation by air necessitates the introduction of the stomach tube, which is the disadvantage of this procedure. The inflation with nascent carbon dioxide, generated within the stomach, has as drawback the fact that we cannot always tell how much CO₂ will be necessary. The usual dose of bicarbonate of soda and of tartaric acid becomes inadequate in gastric dilatation and in insufficiency pylori; and, if too much CO₂ is generated this may become distressing and dangerous.

Transillumination is the most imposing of all methods, alike upon the physician and layman. It cannot be done in a patient, whose stomach is yet unused to the stomach tube, even if the patient himself offer no resistance, and the results obtained from transillumination have no superiority over other methods. For the purpose of impressing student and patient (for the latter, if a mirror is handy) this is the method par ex-

cellence; for scientific purposes its use is very limited.

Inspection.—I refer here to the seeing of the stomach curvatures, described by me in the *New York Medical Journal*, February 15, 1902, and in the *Deutsche medicinische Wochenschrift*, May 1, 1902. This is the best of all methods. Its practice is no hardship either upon the physician or upon the patient and its results are most accurate. Once one has mastered "seeing the curvatures" he will give their exact location even to within one-sixteenth of an inch.

The method I wish to add now, I admit, is not so accurate as the last one, but although it does not define the margin of the greatest curvature to within a fraction of an inch it will give good results, as sought by the practical general practitioner. This method might not give the exact size of the stomach, but it will tell how far up or how far down the stomach is. All that is necessary is to have the patient drink a glass of cold water, wait about half a minute and then put a hand on the patient's bare abdomen. The cold region on the abdomen locates the stomach.

The patient sits or stands, the abdomen freed from clothing but not uncovered, as uncovering the abdomen soon chills it. The physician's hand must not be cold. He must wait for about half a minute to allow the cold of the stomach to spread to its overlying skin. This method is available only for a short period, after the patient drank the water, because soon the cold area extends to circumlying structures, thus widening the cold zone; again, the cold water in the stomach soon warms up.

DRAINAGE AFTER LAPAROTOMY.

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COMPLETE closure of the abdominal cavity in aseptic operation is a principle in surgery which is universally carried out, but there is considerable difference of opinion concerning the question of drainage in cases where infected material, as pus from rupture of pus tubes or ovarian cysts, gained entrance into the abdominal cavity. Ohlshausen gives a decided opinion, based upon 1,550 laparotomies, against any drainage in nearly all those cases of gynecological operations. He drains only those cases where a suppurating focus remains. It is evident that he finds many objections and opponents to this; it is difficult to prove the necessity or importance of drainage, as statistics fail and the question has to be decided by our subjective opinion. On account of that we must not figure as much on statistics, as we have to ponder the different cases.

When we consider the views and opinions of the various operations, we may classify them under three headings, viz., Is drainage necessary: (1) When pus or contents find way into the abdominal cavity through rupture of tumors; (2)

where malignant or partially extirpated tumors or the purulent infiltrated abscess wall remains; (3) in operation with penetrating injury in the intestines.

I consider it a settled question that drainage is no longer indicated in the so-called unclean cases when a considerable quantity of non-infectious material finds entrance to the abdominal cavity. To this class belong such cases as pseudomyxoma peritonei, as do also cases of evacuation of cyst contents or old hematoceles into the abdominal cavity.

Concerning the first heading, contamination of the abdominal cavity with pus, I will consider 17 cases out of 257 laparotomies in which pus found entrance to the abdominal cavity through rupture of the tumor. None of these cases were drained. Sixteen made a prompt recovery, the other died on the third day of septic peritonitis. The origin of the pus in this last case was a pyosalpinx. At the operation extensive adhesions had to be broken up between it and the intestines, particularly the rectum. Symptoms became at once so severe that one had to consider an infection of the most virulent character, which surely the best drainage could not have overcome. Drainage was considered in all of these cases, and without doubt the majority of surgeons would have drained each one. I did not, and will explain my reasons later. Two of my cases were purulent ovarian cysts, 15 were pyosalpinx, each one of which, as the history showed, was of seven to nine months' standing. It is a pity that we have no means of immediately testing the virulency of the pus, but experience and scientific investigation teaches that pus of a gonorrheal origin is generally sterile after a period of nine to twelve months. A more infectious and longer lasting virulency is exhibited by the pus of the pyovarium, for here the menstrual congestion and the stratum of the ovarium, as a good soil, affords a very favorable medium for the development of the bacteria. Pus situated intraperitoneally as in the parametrium is most dangerous. In all these cases a definite diagnosis is of the utmost importance, for here laparotomy is contra-indicated. Naturally one often finds diseased adnexa complicated by parametritic abscess. In these vaginal incision is indicated as the first step.

In the second class, where malignant tumors are only partially extirpated or where a portion of the cyst wall remains. I not only consider drainage entirely unnecessary, but even dangerous. Drainage in these cases may cause secondary infection, rapid disintegration and sepsis. In two cases of intraligamentous cysts, where I was compelled to allow a part of the cyst wall to remain, and where, in extirpating the mass, a blind space remained in the floor of the pelvis, I did not drain, and the cases healed without any complications. I covered the defect as well as possible in one case; in the other case I had to leave it to its own fate.

For lesions of the bladder the exact suture is essential, and to prevent collection of urine in the bladder one should introduce a permanent catheter. But with injury to the intestines one has other conditions presenting. In these complications, I have lost two out of four cases. Ohlshausen statistics show a startling high mortality. I willingly admit that in case of perforated intestines with the escape of most virulent intestinal contents, the best suture and drainage will not suffice to hold an acute septic peritonitis in check, but I must advise, particularly with a doubtful suture, the placing of a piece of gauze in such position around the area of suture that in case the intestinal suture does not hold, feces cannot escape into the general peritoneal cavity. It is a sort of safety valve which does no damage and which can save a great deal of apprehension and reproach. At times we see fecal fistula develop in six to eight days cases where gauze drainage has been used after breaking up intestinal adhesions. I cannot help but think that the gauze in these cases assists in this formation of the fistula. In freeing the adhesions, the intestine loses more or less of its serous coat. The injured intestinal site is infiltrated and poorly nourished. When this site rests upon some gauze and not upon living tissue with which it can adhere, perforation is the result.

After careful study of our cases, and I am more convinced by a review of the individual cases rather than by the number of cases, I must agree with the eminent authority on gynecology, Dr. Ohlshausen, who rejects drainage in almost all gynecological operations. It is advised, however, in those cases of persistent pus focus and is recommended in all cases of injured intestines, particularly when our intestinal suture seems not to be trusted. Here gauze acts not as a sort of drainage but as a safety valve. That drainage, particularly drainage with gauze, is not altogether harmless has been proven. Experimentally we know that the gauze is generally infected within twenty-four hours and secondary infection has very often been observed. Furthermore, whereas healing per primary union cannot occur at the site of drainage, it is evident that this site becomes a *locus minoris resistentia*, for subsequent bacterial infections, not at all taking into consideration the difficulty one often finds with the patient through secondary omental adhesions to the drainage site.

Ohlshausen rightfully asks "What can we accomplish with drainage?" We can more easily get rid of the pus or suspicious fluid that presents itself with cotton wipes than with drainage. However, should the pus be most virulent, and here we have the punctum saliens, then neither cotton wipes nor drainage will suffice; the peritonitis will spread rapidly, the prognosis for the patient will be a hopeless one within twenty-four hours, long before the promising adhesions can be built up around the drain. It is an utter im-

possibility thoroughly to drain the abdominal cavity, with its many intestinal loops forming innumerable small cavities.

How then can we best guard our patient against infection?

1. Thorough careful indication for operation and operative procedure. All those cases which show a severe infection through high temperature and other symptoms should be operated upon only when operation is made necessary by *indicatio vitalis*, and then a preliminary vaginal incision should be made. We know that pus located intraperitoneally or in the parametrium is highly infectious.

2. Through selection of proper time for operative procedure. Pus from a pyosalpinx is sterile after nine months. When no immediate indication for operative interference exists, it is better to wait.

3. Through careful observance of the following preventive measures: Protection of the abdominal cavity with layers of gauze; careful separation of adhesions; removal of all visible pus; exact hemostasis, and rapid operative procedure.

MEDICAL PROGRESS.

SURGERY.

Infiltration Anesthesia in General Surgery.—The use of local instead of general anesthetics is shown by the statistics of many noted surgeons who claim that from 60 to 90 per cent. of all surgical operations can be performed under local anesthesia. R. M. PARKER (*Chicago Med. Rec.*, April, 1905) reviews the indications and contra-indications very thoroughly. He states that there are three varieties of local anesthesia. (1) The direct, secured by applying the anesthetizing medium directly to the surface to be cut; (2) infiltration anesthesia, which is produced by injecting a solution of the analgesic into the structures to be cut; and (3) regional anesthesia, caused by injecting the cocaine solution in or around the nerve trunks which supply fibers to the field of operation. Of the three methods the infiltration method has by far the broadest field of usefulness in general surgery. The largest amount of cocaine which can be injected at one sitting is given by conservative authorities at gr. $\frac{1}{4}$. The dangers from poisoning is greatly diminished by retarding the circulation by the Esmarch constrictor, but preferably by the addition of adrenalin to the cocaine solution. The adrenalin causes in five to ten minutes an ischemia extending one half to one inch beyond the infiltrated area. The suprarenal extract should be added to the infiltration fluid in the proportion of one to twenty or thirty thousand. The author has used eucaine, various solutions of cocaine and sterile water for infiltrating. He considers that the injection of solutions containing one per cent. cocaine is followed by prompt and complete anesthesia over the whole infiltrated area, which lasts twenty to thirty minutes. No advantage is to be gained from stronger solutions. The author considers the contra-indications to infiltration anesthesia to be as follows: (1) Insurmountable fear on the part of the patient; (2) where muscular relaxation is required; (3) in plastic operation where infiltration would destroy relations. Among the objections which have been urged against the infiltration method are: (1) Danger of cocaine poisoning.

Since the introduction of suprarenal extract and eucaine this objection no longer holds. (2) Sloughing of the tissues following its use. To what extent infection of the wound is responsible for the sloughing is an unsettled question. (3) Secondary hemorrhage. This sometimes occurs as a result of the temporary constriction of the arteries in the field of operation, caused by the cocaine. The author sums up the advantages of the infiltration method of anesthesia as follows: (1) Removal of danger of death on the table; (2) avoidance of the after-effects of general anesthesia on heart, liver, kidney and lungs; (3) absence of nausea, vomiting and unconsciousness; (4) impossibility of drowning by fecal vomit; (5) the patient is conscious and can be of assistance to the surgeon; (6) the consent of the patient to the operation is more easily obtained; (7) the anesthetic is more agreeable; (8) assistants can be dispensed with.

The Treatment of Congenital Clubfoot and the Modeling Redressement.—In the treatment of clubfoot by modeling redressement, F. MÜLLER (*Med. Standard*, Feb., 1905) calls attention to one of the most important features in the proper care of the circulation. By the retardation or stopping of the circulation several types of disturbances are to be observed, which are as follows: Ischemic paralysis, gangrene and decubitus. To avoid these conditions care should be taken to avoid an improperly fitting cast, which must never cling to the limb too tightly, and it must be liberally padded. The cast, after setting, should be trimmed so that the knee-joint and the dorsum of the toes are entirely free. The author advises the casting of fenestra for the proper observation of the condition of the skin of the sole of the foot. With proper care the cast may be worn for six to eight months. After one week the patient should be allowed about on crutches, care being taken to prevent destruction of the cast from water, urine, etc., by proper covering. Very often it is necessary to perform tenotomy of the tendo Achillis or the tendons of the extensor muscles. The period of convalescence is materially shortened in cases due to paralysis of a group of muscles by proper tendon transplantation. After the case is removed a suitable brace (the author describing one) should be worn for a period of time depending upon the case.

Incontinence of Urine and Feces in Late Hereditary Syphilis.—There have been many instances of this affection reported, mostly isolated cases, but M. CANTONNET has collected twenty-one cases, several of which are his own, and has drawn the following conclusions (*Rev. Française de Med. et de Chir.*, April 17, 1905). Incontinence of urine is sometimes the symptom by which is disclosed meningomyelitis caused by late hereditary syphilis. It is at times associated with incontinence of fecal matter. These two phenomena appear especially in degenerated subjects and those tainted with a neurotic history. They appear at all ages, but especially between the ages of four and twenty years. The lesions observed are those of a meningomyelitis affecting either the lateral or posterior columns of the cord; hence, there are two clinical forms: one with a diminution or abolition of reflexes corresponding to the last, the other with contractures and exaggeration of reflexes, corresponding to the first case. The medullary symptoms are always associated with the stigma of hereditary syphilis. The prognosis ought always to be reserved on account of possible cerebral and meningeal complications. The sphincter troubles are appreciably lessened by mercurial treatment. If the treatment is instituted early, mercury is well absorbed in all forms. According to the author the result is the same whether the ointment is rubbed in, the liquor of Van Swieten,

Dupuytren's pills, or injections of biniodide of mercury are used. Subcutaneous injections or frictions are preferable. The addition of potassium iodide is useless. You must watch for stomatitis, arouse the child at night to urinate and not allow him to overeat, but the all important consideration is the administration of mercury.

Interstitial Hernia.—This form of hernia was first described by Bartholini in 1661, although in 1797 Petit gave a much more positive description of the affection. CHARLES G. CUMSTON (*Ann. of Surg.*, March, 1905) states that these herniæ were finally divided into three classes, viz.: (1) Peritoneal inguinal hernia situated between the parietal peritoneum and the fascia of the transversalis. (2) Interstitial inguinal hernia situated in the layer of the abdominal wall. (3) Superficial hernia found between the superficial fascia and the external oblique muscle. The term interstitial hernia has been employed in a rather loose manner by many surgeons. A certain number of operators considering it to be properly limited only to that form of hernia which lies between the external and the internal oblique. The chief interest, however, centering upon the subject is to be found not in the subject of its technical phraseology, but rather in the fact that the lesion itself is one of a most serious nature. It is evidently more freely met with in the male. Out of 115 cases, collected by Gobell, only four were in women. This is a much lower percentage than is usually found in the ordinary type of hernia, which is generally credited to be about four times as frequent in the male as in the female. All cases of the interstitial variety of hernia, recorded up to 1904, have been associated with displacement or with some anomaly of the testicle. It is seen, therefore, that this had an important etiological bearing. An interesting conclusion is reached by the author, viz., that whereas in the male interstitial hernia has occurred during the period of life of maximum intra-abdominal pressure. In females the patients have in most cases been over fifty, and not a few of the cases reported have occurred in little girls.

Pathology and Etiology of the Diseased Prostate.—That most text-books present this subject in a crude and unsatisfactory, and indeed oftentimes in an absolutely faulty manner, is not to be doubted. PAUL MONROE PILCHER (*Ann. of Surg.*, April, 1905) states that the gland is essentially composed of two lateral lobes connected together in front of the urethra by the anterior commissure, and beneath the urethra by the posterior commissure. The prostatic urethra traverses the gland from base to apex a little in front of its middle. The cortex is made up almost entirely of non-striated muscular fiber with a small admixture of fibrous tissue. This comprises what is known as the capsule of the prostate. Outside of this is an indefinite sheet of fibrous tissue in which is located the prostatic plexus of veins. The organ is composed of stroma and glandular elements, the exact proportions of which vary. According to some authorities, the glandular elements make up from one-third to five-sixths of the substance of the gland. The gland consists of from 40 to 60 lobules of the alveolar type. Pilcher divides the prostates, which have to be removed because of urinary obstruction, into three classes. The one is greatly enlarged and is soft. The second is a relatively small contracted, hard prostate, and the third is a mixed form. It is interesting to note that gonorrhea was positively known to have been present in patients from whom all three types have been removed, so that this disease obviously is not to be considered as responsible for a constant type of prostatic lesion. The urethra is distorted, depending upon the size, direction and extent of the hypertrophy. The

atrophic form is not uncommon. The average amount of tissue operated upon in the series of 23 cases was about 250 grains. This is not far from the average weight of a normal prostate. These prostates are hard and firm, and the capsule is adherent. The surface of the gland is very irregular. The microscopical lesions of the hypertrophied prostate most striking is the relative and absolute increase in the amount of glandular tissue. All degrees of changes from the normal alveoli, formation of cysts and large adenomatous masses are seen. In the atrophic prostates two forms were observed. In the first the glandular elements were decreased and smaller than normal. The second form presented a combination of compressed glands which predominate, and a few dilated hypertrophied lobules. As to the etiology, a study of this series seems to the author to show that the hypertrophy was due more to glandular overgrowth, distorted and increased by the degenerative changes of old age, than to the influence of any extrinsic inflammatory agency. That gonorrheal infection is always, or even frequently a cause of the pathological changes is a theory which requires much more proof than it is at present supported by. In conclusion the author states that the contracted form of prostate is not a secondary stage of the large, soft type of hypertrophied prostate, but is distinct from it. In many cases of hypertrophy there is present a true muscular hypertrophy. In some of the atrophic cases, the glandular elements are relatively diminished, and the muscular elements relatively increased. Gonorrhea is not an important etiological factor in the production of this disease, and there is no reason for assuming it to be. The theory of obstruction to the ducts causing passive dilatation of the glandular elements, as advanced by Ciechanowski and Crandon, does not satisfactorily explain the pathological findings. Hypertrophy of the prostate results from glandular overgrowth influenced by the degenerative changes of old age and other ages which tend to produce the formation of fibrous connective tissue in an actively functioning and still useful gland.

The Bacteriology of Peritonitis.—It has for years been taught that the peritoneum is a vast lymphatic space endowed with great power of absorption. Whatever may be its capabilities in this direction in the normal condition, it is certain that when diseased, it can dispose of an astonishing amount of fluid. L. S. DUNGEON and P. W. G. SARGENT (*Lancet*, March 11, 1905) state the Wegner found that a dog's peritoneum is capable of absorbing in one hour an amount of fluid equal to from 3 to 8 per cent. of the animal's body-weight. This power of absorption probably accounts in a large part for the comparative safety of abdominal operations, for the peritoneum, as has often been said, performs its own toilet. It is no longer held that the cavity communicates directly with the lymphatic system, the stomata of the older writers having been shown to be histological errors. Most of the absorption takes place via the thoracic duct, but a portion of it passes directly into the blood stream. The paper dwells upon the influence of rest upon conductivity and upon arrhythmia due to depression of conductivity. In respect to independent ventricular rhythm due to heart, the writer states that independent rhythm can be demonstrated as a cause of certain form of bradycardia in the human subject. A careful analysis of their relationship shows that true auricular periods are less than one ventricular period, so that in the relationship of the auricular systole to the ventricular systole is a constantly varying one, sometimes at a distance, then gradually approaching till they are synchronous.

New Operation for the Relief of Flatfoot.—WILSON and PATTERSON (*Am. Med.*, May 6, 1905) present a favorable report of a new operation for flatfoot, which they have employed, consisting of an arthrodesis of the astragaloscaphoid joint and the transplantation of the tendon of the extensor proprius hallucis through a hole drilled in the scaphoid bone, and adaptation of Wolf's operation for paralytic valgus. The loss of function of the transplanted extensor of the great toe is but temporary and until the extensor brevis digitorum becomes educated to overcome the toe-drop. The after treatment is fully as important as the operative correction, and consists of well-adapted physical culture drills. This procedure has yielded better functional results than is possible by the use of arthrodesis alone. The combined operation for flatfoot now described for the first time, offers no serious difficulties, the additional damage to the structures of the foot necessitated by this procedure is inconsiderable, the time required for treatment not longer, and the results obtained more certain and satisfactory. It would, therefore, seem well to adopt the combined operation in all suitable cases.

MEDICINE.

Tuberculosis of the Tonsils.—G. B. WOOD (*Journal A. M. A.*, May 6) has investigated questions of the liability of the tonsils to tuberculous infection, and the effects of such infection on the production of tuberculosis of other organs, and of the system generally. He reviews the statistics and literature, and to confirm the opinion that the tonsils are specially vulnerable, he experimented by swabbing the pharynges of guinea-pigs and swine with virulent cultures. The former have practically no tonsils, while the latter are well supplied, and the results confirmed the view. The general, more important facts derived from his study are summarized by him in substance as follows: The tonsillar tissue of the throat, from its anatomy and its topographic relations, is more liable to tuberculous infection than any other part of the upper respiratory tract. In nearly all cases of advanced consumption the faucial tonsils become involved. In about five per cent. of hypertrophied pharyngeal tonsils some form of primary tuberculosis will be found. Primary infection of the faucial tonsil is more rare. Cervical tuberculous lymphatic adenitis in most cases develops from infection of the faucial or more often of the pharyngeal tonsil. The tubercle bacillus is probably unable to pass the tonsils without first overcoming the vital resistance of the tonsillar tissue. The danger of systemic or lung infection from tuberculosis of the tonsils is about equal to that from tuberculosis of the cervical lymphatics. The resultant disease to be expected from infection of broken-down glands of the neck is miliary tuberculosis of the lungs. Beyond this possibility, tuberculosis of the cervical lymph glands is no more dangerous than any other localized tuberculous lesion. The tonsils are more resistant to bacterial toxins than is ordinary lymphoid tissue.

The Vibrating Sensation and its Clinical Value.—It has long been known that peculiar vibratory sensation is transmitted from the base of a tuning fork, the prongs of which are in rapid motion, if it be applied to the styloid process of the ulna or to any subcutaneous bone. Egger, Rydel, Goldschneider and others have said that the vibratory sensation is always present in health, and is usually absent when other forms of sensation are lost owing to the disease of the nervous system. R. T. WILLIAMSON (*Lancet*, April 1, 1905) states that in the examination of a large number of cases

of nervous diseases, and of diabetes, he has always employed the same tuning fork, a large one six inches in length. He has used the following points for observation, viz., styloid process of ulna; internal malleolus; inner surface and anterior edge of tibia; anterior superior iliac spine; middle of the sternum. His results, briefly stated, were as follows: In 50 healthy men the vibrating sensation was distinctly felt on both sides. Of 200 medical cases examined, 80 suffered from the disease of the nervous system, 45 from diabetes mellitus and the rest from scattered diseases. As a result of the study of these cases, the author reaches the following conclusion: (1) The normal condition of the vibrating sensation, tested in the manner described, is probably always present at the three points mentioned. (2) In early tabes it may be lost in the legs before impairment of other forms of sensation occurs and before ataxia of Romberg's sign can be detected. (3) In certain cases of spastic paraplegia it may be lost in the legs when other forms of sensation are not affected. (4) In some cases of diabetes mellitus and chronic glycosuria, it is lost when sensation in other respects is normal. (5) From these facts it is evident that sensation cannot be declared to be normal until the vibrating sensation has been tested.

Combination of Radiotherapy and Organotherapy.—In order to determine to what extent organic preparations may be rendered radioactive by exposure to this substance, V. POEHL and V. TACHNOFF (*Berl. klin. Woch.*, April 17, 1905) made a series of experiments with spermin, ovarin, thyroedin, cerebrin, etc. A method was at first devised by means of which absorbent cotton was rendered radioactive, the air being forced through the cotton after it had been in contact with a solution of 1-1,000 radium bromide solution. In about half an hour this cotton is strongly radioactive, and if placed in contact with any one of the various organo-preparations, it imparts its radioactivity to the latter. Tests showed that the mammin seemed to be the most sensitive. It is claimed that these organic products exert a selective influence on the same type of organs from which they are originally obtained, so that it seems possible that the radium emanations may thus be made to exert their effect on these same organs. Clinical experiment with the preparations is now desirable.

Tuberculosis Vaccination Upon Cattle Infected with Tuberculosis.—Among the means which have been proposed for controlling the spread of tuberculosis among cattle, is vaccination. While engaged in such experiments, L. PEARSON and S. H. GILLAND (*Univ. Penn. Med. Bull.*, April, 1905) had the opportunity of testing the effect of vaccination on some young cattle already infected with tuberculosis. This treatment seemed to have a decided effect on the course of the disease, six animals thus treated being favorably influenced, the process being kept in check, and in three animals undergoing a retrogression. That is to say, the treatment exerted a distinctly curative effect. These experiments do not justify conclusions or inferences as to the probable effect of similar treatment on older or more extensively diseased animals, until further observations on a larger scale are at hand.

Syphilitic Lesions in the Bones of the Mound Builders.—An interesting contribution to the history of syphilis is to be found in an article by S. T. OWEN (*Univ. Penn. Med. Bull.*, April, 1905), who has made a careful study of specimens of bone obtained from mounds in Ohio, which seems to confirm the fact that this disease was present on the American continent at an early date. The origin of the material is from a

source undoubtedly pre-Columbian, and the lesions are such as to justify the diagnosis of syphilis by the following pathological evidence: Changes affecting chiefly the diaphyses where long bones are concerned, showing a predilection for those bones which are most exposed to trauma, consisting of large exostoses and osteophytic overgrowths, and characterized by the concurrence in the same specimen of both a rarefying and condensing osteitis, as demonstrated by gross and microscopic examination. Of 127 skeletons from one series of excavations, 21 showed traces of disease. Sixty per cent of those affected showed the disease most marked upon the tibia, with the ulna, cranium and sternum following in order. A rarefying osteitis was present in all but two specimens.

The Misuse of Hydrotherapeutic Measures.—Mistakes in the application of such measures are believed by WINTERITZ (*Berl. klin. Woch.*, April 10, 1905) to be the main reason why this branch of therapeutics has not been more favorably received by the medical profession. The necessary requirements he sums up as follows: (1) A careful analysis of any deviations from the normal in the organs or their functions, i.e., a careful clinical history; (2) a knowledge of the physiological action of thermic and mechanical stimuli; and, (3) a thorough knowledge of the technic of the procedures. In febrile diseases the choice of the temperature of the water is entirely dependent upon its action on nerves, vessels, and tissues, and it is a great mistake to use, at the beginning of the treatment, water at a very low temperature applied for a short time only and accompanied by only a slight amount of mechanical stimulation. Such baths should be merely cool, long continued and followed by sufficient mechanical stimulation. In cases of collapse and cardiac weakness, where there is a high body temperature and cold extremities, it is necessary to apply cold to the trunk, but the extremities must be warmed by rubbing with warm alcohol or the application of hot packs. In administering sitz baths, care must always be taken to guard against the loss of heat from the uncovered parts of the body. It is essential that each case be studied on its individual merits, and the writer believes that the art of acquiring this habit can only be gained from a well-managed hydrotherapeutic clinic.

Diagnosis of Banti's Disease.—In an interesting discussion before the Hamburg Medical Society, SIMMONDS and UMBER (*Munch. med. Woch.*, April 18, 1905) express some entirely new views concerning Banti's disease. Not every condition associated with hypertrophic cirrhosis of the liver and very large, hard spleen can be called a Banti, for syphilis, malaria, and other infections may produce the very same lesions. There is as yet nothing characteristic for Banti's disease clinically, and even at autopsy the changes in the spleen have not been found at all constant. This is to be deplored the more since the treatment of this disease and cirrhosis of the liver are altogether different. Recently, however, UMBER has made very careful studies of the metabolic activity of the body in both conditions with positive results which will now enable an accurate diagnosis. In true Banti's disease, there is a progressive loss of nitrogen, that is, the body excretes more nitrogen than it takes in. The spleen here acts as a toxic agent, and these cases will invariably do well if this organ is removed. Another patient may present the same splenic and hepatic enlargement and general symptoms; by careful analysis of the urine and the feces it can, however, be shown that there is no loss of nitrogen. This patient will not be benefited by a splenectomy, and, hence, must be classed among

cirrhosis. This type of cirrhosis has recently been termed Banti's cirrhosis.

Senile Anemia.—A peculiar form of anemia has been observed by O. KUPFWEIT (*Deutsch. Arch. f. klin. Med.*, Vol. 82, Nos. 5 and 6). From the history of two cases quoted in full, it can be seen that the characteristic symptoms are progressive emaciation and pallor, coupled with high temperature of intermittent or continuous type. The spleen is enlarged; the stomach contents lack free acid, and the urine generally contains urobilin and kidney elements. The number of red cells is in proportion to the percentage of hemoglobin, but poikilocytosis and other changes are slight or absent altogether. The leucocytes are markedly reduced in number and the lymphocytes usually form the most abundant elements. At autopsy, subserous hemorrhages are often found, together with cloudy swelling of the heart muscle and hemosiderosis of the internal organs. The bone-marrow shows a marked atrophy with occasional hemorrhages and necroses, such as are not seen with typical pernicious anemia. The author classifies these forms of anemia among a plastic anemia, since the absence of nucleated reds, the diminution of leucocytes and the autopsy findings speak for an entire absence of regenerative power on the part of the bone-marrow.

Action of Baths on Heart and Vessels.—During every bath the systolic blood-pressure first rises, then falls, and finally rises a second time. The depression is generally most marked and constant, and after the bath a second depression may usually be observed. With cold baths the initial rise is more pronounced; with hot baths the secondary rise. A temperature of 90° or 95° F. causes the least marked fluctuations; below this the pulse is slowed, above this, accelerated. The diastolic blood-pressure is subject to the same laws, but does not run absolutely parallel with the systolic. Cardiac action is very much stimulated in baths at 104° F., only slightly stimulated in baths from 90° to 104° F., and somewhat depressed below 90° F. With carbonated baths the curve of the systolic pressure presents the same peculiarities: the pulse is slowed less during the bath, and more after the bath, and the volume of each cardiac contraction is considerably increased. J. STRASBURGER (*Deutsch. Arch. f. klin. Med.*, Vol. 82, Nos. 5 and 6) concludes that hot baths demand more work from the heart in every way, while cool baths may be looked upon as inducing cardiac exercise, with conservation of cardiac energy. Carbonated baths behave like digitalis, without, however, causing contraction of the vessels.

PATHOLOGY AND BACTERIOLOGY.

Nature of Fatty Degeneration.—Ever since the days of Virchow it has been customary to look upon fatty degeneration of the kidney as a very common lesion which accompanies almost every change in the renal tissues. Recently, however, attention has been drawn to the fact that the chemical examination of kidneys which were pronounced fatty to a marked degree by microscopic examination frequently did not show an excess but rather a deficiency of fat. The explanation offered by M. LÖHLEIN (*Virchow's Archiv*, Vol. 180, No. 1) is that many of the highly refractile granules seen within the epithelial cells of the renal tubules are not really fat but a modified proteid called protagon. This protagon reduces osmic acid like fat if mixed with a small amount of lecithin; hence, will pass for fat in specimens hard-

ened in Fleming's or Herman's fluid. In fresh specimens one may, however, distinguish the two substances with ease, since protagon is anisotropic, but fat isotropic. The author has examined a large number of kidneys, and comes to the following conclusions: Fatty infiltration of the kidney is an accumulation of true fat within the epithelial cells of the tubules. The epithelial cells themselves do not suffer by this, and albuminuria does not occur. Fatty degeneration, on the other hand, is due to a less pronounced accumulation of fat, together with a crystallization of protagon within the epithelial cells. The latter are considerably damaged, and albuminuria is the rule. An instance of fatty infiltration of the severest grade is phosphorus poisoning, and it is a significant fact that albuminuria is often absent, at least in the earlier stages.

Experimental Hydramnios in Nephritis.—It has been shown that a condition of acute nephritis and ascites could be experimentally produced within a few days in animals, by the subcutaneous injection of uranium nitrate, at the same time giving them large amounts of fluid. E. BIERSON (*Berl. klin. Woch.*, April 10, 1905) publishes another contribution to this subject in which he states the results of his observations in pregnant rabbits where the uranium injections had been made. Wolff had already produced artificial hydramnios in rabbits by extirpating both kidneys, and the present writer sought to attain the same results by the uranium injections already noted. In two animals it was found that there was not only a marked increase in the amounts of the usual transudates in the pleural and peritoneal cavities, but the quantity of liquor amnii was also increased. The fetuses also showed evidences of nephritis, and in one instance there were fluid accumulations in every one of the eight fetuses and the urine in their bladders was albuminous. It is evident, therefore, that the uranium injections produced nephritic changes even in the embryos. Glucose was found in the maternal transudates, and also in traces in that of the fetuses. In order to explain the increased amounts of fluids which led to the condition of hydramnios, a larger series of animals would be required than were made use of in these experiments, the author's object merely being to show the possibility of producing a hydramnios when a nephritis is present in the mother.

Lymphatic Tissue in the Urethra.—Since lymphoid cells have not been described in the urethra and their occurrence is quite common in other mucous membranes, D. BUSCH (*Virchow's Archiv*, Vol. 180, No. 1) made a large number of serial sections of all the urethra he could obtain at autopsy. In two newborn infants no follicles were found, but in all other children and adults examined the search was positive. The amount of lymphoid tissue varies very much; sometimes the entire canal is surrounded by it, while in other cases only two or three nodules are found. A limiting membrane is usually absent, but germinal centers are common, and emigrated leucocytes frequently invade the tissues. The parts examined were in all cases the terminal portions of the urethra, since the occurrence of lymphoid tissue higher up in the genito-urinary tract has been demonstrated before. The follicles are not pathological, but probably undergo hyperplasia in various conditions.

A Multiplex Slide-Holding Device.—To facilitate the rapid staining of large numbers of paraffin sections and to minimize the waste of stains, reagents,

etc., E. F. MILLER (*Johns Hopk. Hosp. Bull.*, April, 1905) describes an apparatus which seems to meet all requirements for the rapid staining of sections. The author claims the advantages to the apparatus to consist in: (1) Twenty-six slides bearing paraffin sections may be stained and mounted with but a slightly greater expenditure of time than is consumed in staining and mounting a single section. (2) There is a great saving in the quantity of reagents used. (3) There is no danger of injuring the sections. The entire series can be mounted without the loss of a single section. (4) The staining of the entire set is absolutely uniform, a result impossible to obtain by the old method. (5) The apparatus is so constructed as to be, with ordinary care, almost indestructible. (6) By the use of this holder it may be possible to give classes in microscopic anatomy sections stained by the more complex methods owing to the economy of time and reagents.

The Morphology of Cancer and the Parasitic Theory.—In a long paper on this subject, J. OARR (*Berl. klin. Woch.*, March 20, 1905) discusses the various theories with regard to the parasitic theory of cancer, and sums up the objections to the same as follows. The essential factor in all cancers, primary as well as secondary, are the cancer cells, without which metastases cannot occur. In order to account for the formation of the latter, we need not assume the existence of parasites, for cancer cells which are capable of proliferating, are all that is necessary. An analogy between cancer metastases and metastatic suppurations, tubercle formation or other infectious processes cannot be established, and the question of analogy cannot be made use of to account for the parasitic nature of cancer. The successful transplantation of cancer from one individual to another, can be accounted for without having recourse to the parasitic theory, by assuming that this is a metastatic deposit of cells in another organism which forms the nidus of a new growth. None of the parasites which have thus far been described, afford sufficient basis for a scientific theory, or, in other words, the parasitic theory as far as the cancerous growths are concerned, is still in the air.

Pharmacology of Camphor.—Experiments made by E. SELIGMANN (*Arch. f. exp. Path. u. Pharmac.*, Vol. 52, No. 5) upon the action of camphor upon the blood-pressure, were on the whole not conclusive. If the blood-pressure of the animals experimented upon was reduced by means of chloral, camphor subsequently injected, had no effect or else brought about a slight rise or fall. Slight fluctuations, are however, common with chloral alone. Dilute solutions of camphor, allowed to circulate directly through the heart, will sometimes show a decided stimulating effect, but more frequently no influence could be observed. One action, however, is fairly constant: if the heart of a warm-blooded animal has ceased beating and simply flickers, camphor will almost invariably bring about a return of coordinated contractions. It is possible that this will explain the stimulating action of camphor in severe collapse, though the conditions are very different in the living body.

PRESCRIPTION HINTS.

General and Symptomatic Treatment of Locomotor Ataxia.—(1) Avoid carefully all physical and mental exertion, also alcoholic and sexual excess. (2) Every day on arising administer friction along the vertebral column by means of a horse-hair glove.

(3) Take every other day at the beginning of each meal one of the following pills:

℞ Pulv. capsicum gr. ii
Pulv. ergot gr. v
Pulv. liquorice gr. x
Honey q.s.

Ft. in one pill No. xxx.

(4) During the alternate days of the month, take in a glass of milk one or two teaspoonfuls of a solution of the iodide of potassium or strontium:

℞ Iodide of potassium gr. xx
Water gr. 250

(5) Spend some season of the year at the seashore.

(6) Give mercurial medication if the origin of the disease is syphilitic.

To combat the lightning pains, give one or two of the following capsules:

℞ Phenacetin gr. xx

If the pains are very severe, use hypodermically one cubic centimeter of the following solution:

℞ Chlorhydrate of morphine gr. x
Chlorhydrate of cocaine gr. v
Distilled water ℥i

To counteract the urinary and ocular affections, give two pills per day as follows:

℞ Extract of belladonna gr. iii
Extract of gentian gr. v
Powdered liquorice gr. x
Honey q.s.

Ft. in one pill. No. xx.

Keep the bowel movements active, either with glycerin enemata or by taking one of the following pills:

℞ Podophyllin gr. ii
Cascara gr. x
Honey q.s.

Ft. in one pill. No. x.—(Malbec.)

Treatment of Grippe.—The following treatment is recommended by Professor Lemoine: Severe hygiene, isolation, during the course of the disease remaining in one's room. Antiseptic irrigations for nose and mouth. (1) Gargle the throat three times a day with hydrogen peroxide (1-10); (2) Place within the nares, morning and night, some of the following ointment:

℞ Vaseline 20 grm.
Salophène 2 grm.
Oxide of zinc 2 grm.

(3) Wash out the mouth with Eau de Phenique (25 parts to 1,000). Placing a teaspoonful in a glass of lukewarm water. (4) If any catarrh of nose or throat is present, treat with the following:

℞ Phenosalyl gr. i
Sodium chloride 3 grm.
Distilled water 500 grm.

(5) Purge abundantly with saline cathartics.

Antipyrin in capsules so that 50 grains are taken in the day at four hour intervals, or it may be given in solution.

If much fever is present combine quinine with the antipyrin. If bronchitis occurs as a sequel, or is combined with the disease, cause counter-irritation upon the chest by means of cupping blisters or mustard plasters. Prescribe alcohol to combat the fever, and give an active purgative when the disease has ended.

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MEDICAL REUNION ONCE MORE.

It is appropriate to announce, now that spring-time is in its full tide, that cards are out for the union of the New York State Medical Association and the Medical Society of the State of New York. It seems to be quite as important with regard to the union in this case that the signatures should be made before witnesses as it is for the other case with which the natural analogy so readily suggests itself. As a matter of fact, unless the signatures to the present cards are made in the presence of witnesses, whose names are also signed thereto, there will be doubt as to the legality of the procedures preliminary to the union. It is this point that the Committee of the Medical Association having the matter in charge, for their part, find it difficult to impress upon fellow members. All cards returned unwitnessed will have to be sent back for witnessing if the legality of future action is to stand the test of judicial decision.

The action of the State Medical Association in thus taking steps to hasten the reunion, with the Society, seems thoroughly deserving of commendation. The committee might have waited until the regular annual meeting in October, and then, having secured the passage of the by-laws which were presented at the last annual meeting,

proceed to settle all questions as to reunion at a special meeting to be called later. As the regular annual meeting of the State Society occurs in January, however, there will not be very much time for the necessary action, consequently the issuance on legal advice of the present cards, in order to secure a formal consent of all the members of the Association to immediate action, looking to consolidation, at the regular annual meeting of the Association in October.

There is all the more reason for this expedition because the Medical Society of the State of New York celebrates next year the hundredth anniversary of its foundation, and no more fitting feature of that celebration could be suggested than the announcement of the completion of all the steps for the reunion of the two medical organizations which, in New York, have unfortunately divided the medical profession in the Empire State, weakened its influence for good, and diverted some of the efforts that might have been devoted to the suppression of the many medical abuses that are rife, to the mere internal affairs of the two organizations. With the reunion will come the assertion of the New York profession's influence, without any drawbacks. The Empire State will then take its place quite appropriately high up in the councils of the American Medical Association, and the New York Medical Society, properly recognized, will be acknowledged as the mother of that organization.

It hardly seems possible that there should be members of the medical profession in New York in good standing in either of the medical organizations who still continue to harbor any objections to the reunion. This same impression, however, existed last year, and yet there were found a few disgruntled ones, who succeeded in searching out a legal quibble that prevented the much-desired union that had been planned and worked for so long. It must not be forgotten, however, that the medical profession will not readily accept declarations that such action is any longer to be considered as taken in good will. Reunion is desired by an overwhelming majority. There are no disadvantages to be foreseen from it; there are many advantages that will surely result. All those members of both organizations, who have it in their power to do anything to further the assurance of speedy reunion, must take what steps they can for that purpose. As to the members of the Association, the request to return their proxies properly signed and witnessed, is only the formal step

for the absolute assurance of reunion at the next annual meeting, and should be attended to at once.

"LUNGS THAT CROW LIKE CHANTICLEER."

In the good old colonial days when the God-fearing, law-abiding elder could not wend his uninterrupted way to the Sabbath meeting without having his skin punctuated with arrows until his voluminous anatomy resembled a war map of the far East, it was customary for men to combine two avocations in life. At that time the lugubrious undertaker manufactured by hand more claw-footed, straight-backed furniture than he did coffins. The surgeon, if he had the requisite manual dexterity, was often the village barber, while the composite sign "needles and grindstones" was not infrequently displayed over the open door of the country store.

Now, however, we have the era of specialism, when a man does but one thing, and frequently only a part of that, so it is as refreshing as a crisp, salt breeze across the sun-baked flats to meet with a man who has something to say and who boldly introduces himself to the tuberculous public as Edward Beckham, "College graduate and longshoreman." The gospel preached by this amphibious evangelist is startling in conception, if not new in application, and might have originated in wonderland with the world turned upside down. For he says, "I have discovered that a man is simply an inverted plant. Hair is to man what the roots are to a plant. Air and light are the soil from which mankind draws its energy."

Now, this theory, which seems to be the text of a long and rather rambling interview with this collegiate roustabout, is not strictly original with Mr. Edward Beckham. For Delilah many years ago seems to have been possessed of an innate faith in the efficacy of a modern "hair cut" as a means of accomplishing her fell purpose, while the hirsute Southerland Sisters claimed not only that their course of treatment would increase and beautify the crown of woman's glory, but would indirectly remove and do away with every ill that female flesh is heir to. Moreover, it is a well-recognized fact that men who constantly wear hats are much more addicted to baldness than are women, and there are few of the passing race of negro "aunties" who are now dying at the tender age of one hundred and eight and a hundred and ten years of age who are not blessed not only with per-

sonal recollections of George Washington and Lafayette, but also with an ample crop of wool in the place where the wool ought to grow.

But our "discoverer" seems to have gone farther afield, and having, as he says, reaped the benefits of his system, is now anxious to impart it to others. During his college course, he states he became the victim of consumption and after his graduation he entered a hospital in Philadelphia for the treatment of tuberculosis. While there he noticed, he continues, that the hair of consumptives stopped growing and turned gray at the tips. So he concluded that this had some connection with the origin of the disease. This idea becoming firmly imbedded in his mind he let his hair and beard grow until he resembled a cross between a second-rate Russian Admiral and a first-class wild woman of Borneo, and adopting an outdoor life, passed rapidly from practising his theories to preaching them.

This, however, is purely a natural transit. The proselyting diathesis is strong in most of us and when to this is added an ardent and entirely sincere belief in our own doctrines we are apt to endeavor to adapt them to the world at large, forgetting that in medical matters, as well as in the question of food supplies, one man's meat may be another man's poison. Then, too, one's personal convictions may not be the same, even when they have been founded on similar experiences, and we doubt if the shades of Samson and Absalom, in looking back over their mundane career, would agree on the question as to what the proper length for wearing the hair might be. Charles II., with his cavaliers, also would hardly share the opinion of Cromwell and his close-cropped adherents; while the ghost of Esau would probably add to his other regrets that he was unconscious while on earth of his immunity to consumption and pneumonia.

For this curing of pulmonary disease by permitting the beard and hair to grow seems to be the *motif* of Mr. Beckham's rhapsody and its beauty draws him, like most socialists, with more than a single hair. Clustering locks, he declares, "supply the ether which is the nutrient and energizer of the entire brain and nervous system" and all that is necessary to "eradicate consumption" is the total abandonment of scissors and razor. From this point on he proceeds with all the energy, and a great deal of the traditional result that characterizes the lawyer who has himself for a client, to draw deduc-

tions from his own case. Prostrated by phthisis he abandoned the life of an educated man; he let his hair and beard grow; lived out of doors without a hat, recovered, and to-day is a giant.

All this sounds well in the narrating and looks even better in print, but luckily for Mr. Beckham, he is in the position of the Elder in the New England Conference Meeting where it is not "etiquette" to propound questions, or to "answer back." For there was no one, it seems, to ask him if he could not have recovered under the healthy influence of his out-of-door life without giving free rein to his hair and beard, or to suggest that if his hair was producing "ether," which was to be nutriment to his brain, why it was not better, like the miller with the white hat, to cover his head. Ethers are weakened by admixture with the ordinary atmosphere, and if this peculiar organic chemical combination was to "energize" the lungs after having keyed up the entire nervous system, it was hardly fair to cripple it at the start.

Nor do we hold, with Mr. Beckham, that the tide of fashion has turned and that hyacinthine locks will again grace the heads and grease the collars of the Gibson men to come. But if this quasi longshoreman, as he intimates, is intending to woo some fair Parthenia as a celebration of his recovery, we earnestly advise him to hie himself to a barber shop and to emerge looking less like Ingomar and more like thirty-five cents. Let him also remember that "Iris cut the yellow hair of Dido and broke the charm," while it was surely a modern Goth who chanted

"From long-haired men and short-haired women
Good Lord deliver us."

THE PROTECTION OF THE ROENTGEN-RAY OPERATOR.

THE serious nature of the injuries which have been recently inflicted on two expert Roentgen-ray operators, and which necessitated the amputation or partial amputation of both hands, should be sufficient warning to all engaged in the employment of this powerful agent. A further word of caution seems necessary, however, as many operators, who have had no experience, are entering the field.

Charles Lester Leonard (*Journal of the American Medical Association*, May 6, 1905) explains the use of a few original devices for the further protection of the operator against the influence of the rays. The claim-made by the manufacturers that the static machine is without danger, is er-

roneous. The X-ray itself is the dangerous agent, and wherever present must be guarded against. "The injury is done slowly and insidiously. There is a gradual accumulation of injurious effects, and when the lesion manifests itself it is in chronic form, with the formation of slow, indolent ulcers, and horny, corn-like growths on the dorsal aspect of the fingers, and cracking and brittleness of the nails." The process continues as long as the tissues are exposed to the cumulative action of the rays. Recovery is tedious or a true malignant growth may develop on the lesion.

Because the lesion develops slowly the victim feels secure, complete relief or protection from the rays after the initial injury is insufficient to arrest the disease. "The acute dermatitis produced on the patient does not possess the elements of danger found in the operator's chronic trophic lesion. There is practically no danger to the patient who is exposed a few times for diagnostic purposes." The lesion does not develop in the operator until after two or three years of constant exposure. "The production of malignant disease in the hands of operators by this agent leads to the conclusion that malignant disease can be produced by the overstimulation of protracted irritation of normal tissue cells by this agent."

The operator must constantly observe the tube while in action without exposing himself to the irradiated field. This can best be done by covering the tube, excepting where it is desired to have the rays emerge. The author describes his device for protection as follows: "A pasteboard box three-eighths or one-half inch wider than the diameter of the tube is cut at the ends to admit the tube. There is a round opening through which the prolongation of the cathode end can extend and another at the anode end, which can be reached by a cut through the intervening pasteboard. The box is suspended from the ends of the tube and surrounds only the bulb. It can be held in place by rubber bands or cord. This box is covered with X-ray foil, a heavier lead foil than the ordinary tea lead."

"It is only necessary to cover the irradiated portion of the box, i.e., the luminous hemisphere of the tube. The lead surrounds the box and extends two inches below the bottom in flexible curtains, that can be so adjusted that the irradiated field can be limited to any extent. It is not necessary to cover the anode end or that portion of the sides behind the plane of the anode. At the cathode end the lead must be cut away one

and one-half inches from the cathode prolongation, where it passes through the box. Where the lead hangs below the bottom of the box it is cut at the corners and thus forms three flexible curtains. The bottom of the box is removed so that in adjusting it the operator, by looking over the anode, can limit the irradiated field to any desired area by bending the lead curtains in or out. Where it is necessary to use the fluoroscope, the operator should stand behind a screen of thick lead with an opening corresponding with the size of the screen of the fluoroscope, which should, in turn, be covered with a plate of glass one-fourth inch thick.

"For the treatment of Roentgen-ray dermatitis, the hands should be washed and soaked in water as hot as can be borne. It will be found that they gradually accustom themselves to very high temperatures, and that the temperature of the water can be gradually increased. The hands should be scrubbed with a sterilized brush, using Eichoff's superfatted resorcin soap. This will be found very soothing. After thorough washing, the hands should be well rubbed in an ointment of lanolin containing one-half ounce of boracic acid and one dram of resorcin to the ounce. This should be done both morning and night and the hands should be washed in hot water with the superfatted soap. Simple superfatted soap or soap and lanolin can be used if the resorcin is too severe, with the substitution of benzoic acid in the ointment.

"The thickened epidermis and horny growths, with the indurated edges of the indolent ulcers, can be softened by covering them with ointment under oiled silk. The softened epidermis then should be gently removed. The ointment should be renewed after each washing. Small healing ulcers that have become healthy can be covered with surgeon's isinglass plaster, after the hands have been washed and anointed; these ulcers often take from four to six months to heal and may cause intense pain."

ECHOES AND NEWS.

NEW YORK.

Death-Rate in New York.—The lowest death-rate for this season of the year in the history of the Department of Health was that for the week ended Saturday. It was 16.11 per 1,000. The lowest record hitherto was in May, 1900, when it was 16.74. For the corresponding week last year the rate was 17.19. There were 60 deaths due to spinal meningitis and 172 to pneumonia.

Tuberculosis Sanitarium Vetoed.—Despite the efforts of Dr. Thomas Darlington, president of the New

York City Board of Health, to secure permission to locate a tuberculosis sanitarium on the top of the Shawangunk Mountains at Bloomingburg, the Town Board of Mamakating last week decided, by a vote of 4 to 2, against the project. Dr. Darlington was ably assisted in his efforts to locate the sanitarium by Dr. Hermann N. Biggs, general medical officer of the New York Board of Health and president of the National Association for the Study and Prevention of Tuberculosis. These men have worked strenuously to secure a location, but their efforts have failed, and it is said they will now turn their attention to Orange county.

Insanity in New York.—According to the State Charities Aid Association's twelfth annual report to the State Commission in Lunacy, insanity in New York State has increased on an average 738 cases a year for the last nine years. Last year's increase was 927, the total number of commitments having been 26,861. So marked has this condition become that there are 3,017 more patients than the fourteen State hospitals can accommodate, which means overcrowding to nearly fourteen per cent. for the entire State hospital system. The report says: "Some of the conditions which have led to the large accumulations of the insane in institutions are: The good care now furnished, which arrests the progress of disease, protects the patients from exposure, and lengthens their life; the good reputation of the institutions for the insane, and public confidence in their work; and the general progress of medical science, which protects the community from the ravages of disease, gradually lowers the death-rate and keeps alive many persons of weak constitution, who, in former years, would have died in childhood."

Brooklyn Tuberculosis Clinic.—The Brooklyn Department of Health was enjoined last week by Justice Marian, of the Supreme Court, from establishing a clinic for consumptives at No. 75 Henry Street, Brooklyn, until the action brought by Mrs. Barbara Schloerb against the health authorities is tried. The case will not be reached until next fall. Gen. Horatio C. King, who, with Lawyer J. W. Jacobson, appeared for Mrs. Schloerb, declared the Health Department should not have chosen a location in a populous district, but a site on Liberty Street or lower Fulton Street, to which there would have been no objection. The clinic, he said, might just as well be placed next door to the Hotel St. George or on Columbia Heights as on Henry Street. Commissioner Darlington, in an affidavit, said the dispensary is intended to prevent the spread of tuberculosis, and would decrease the disease by educating sufferers as to the proper sanitary precautions. No harm has come, he said, from the sanitarium on Sixth Avenue, Manhattan. The Brooklyn clinic, he declared, is not intended to be a hospital, but simply a dispensary where victims of the disease might have their cases diagnosed and received advice. He declared it could in no way endanger the health of the community.

Boarding Out of Insane.—Another important matter discussed by the aid association concerns the "boarding out" of insane persons in private families. It is suggested that both humanity and economy argue in favor of the adoption of this system for certain classes of insane. The plan advocated is that those who are harmless and quiet be selected; that the homes where they are placed shall be within fifty miles of the hospital from which they are taken; that the patients thus transferred shall remain under the supervision of the superintendent of such hospital, and that the cost of their maintenance shall be paid from the funds appropriated for the care of the insane. Much dissatisfaction is expressed by the association with the method of deporting insane aliens, and the charge is made that

many of them do not reach their homes. "The conviction is inevitable," says the report, "that the methods of deportation are not such as to afford to the patients proper care and protection or to do justice to their friends and relatives." Cases in point are quoted and these recommendations are made: State hospitals should notify friends of patients who are to be deported in time to allow the former to provide clothing and see them off, and should obtain names and addresses of relatives of the patients in Europe, send the latter the proper information, and also notify the Immigration Department, which should establish rules to meet the situation.

Medical Supervision in Public Schools.—At a recent meeting in this city of the Medical Inspectors of the Health Department and others in interest, Dr. John J. Cronin, Chief of the Division of Medical School Inspection under the Board of Health, gave some facts respecting the work now in progress which are likely to have great public interest. "The importance of this work," writes the *New York Times*, "not merely with reference to the welfare of impaired and infected children, but equally with reference to that of the normal and healthy children, is so evident as not to need explanation. It should have the cordial and sympathetic co-operation of parents. The physical examination conducted by the Health Department's School Inspectors, all of whom are now physicians specially trained in this work, is very comprehensive. Special attention is paid to the child's nutrition, to cardiac derangements or pulmonary diseases, nervous affections, deformities of limbs or spine, and to throat and nose affections. It is hoped that any tuberculous diseases that may be detected will be properly cared for either privately or in public institutions, and that tuberculous children will be taught separately from healthy children. Children with heart disease need to be dealt with gently, and should be educated as much as possible for a mental or light skilled manual occupation. Care is taken that such children be not allowed to take part in athletic games or other forms of severe exertion. Children with St. Vitus's dance and other nervous affections need special medical and educational treatment and should be taught in classes arranged for them. Normal children imitate nervous symptoms very quickly. Deformities of the limbs are often corrigible if detected early, and grow worse if neglected. Adenoid growths and large tonsils are not only dangerous to the child's health, but also retard his mental development. By notifying the parents of the existence of any of these conditions the department hopes to place every child so far as possible upon the best physical condition to pursue his studies. Perhaps the greatest good accomplished by this work is in the detection and correction of defects of vision in school children. The Inspectors found within the past few months that about one-third of all children in the schools have defects of vision interfering with their studies. Of these a large number already have procured glasses. This has resulted in a noticeable improvement in their work at school, as shown by the teachers' reports. The reason why so many children have been found backward in their studies as related to their age is that there are so many with physical defects, such as deficient vision or hearing, who are unable to keep up with normal children and retard the progress of the classes. Physical defects of one sort or another are also a fruitful cause of bad habits, of truancy, and of moral obliquity in later life. It is said to the physically defective who either leave school prematurely or become hopeless truants. Truancy is the first stage of a criminal career, and by improving the physical condition of children many may be saved for

lives of usefulness. It is as hard for a truly healthy child to do or think wrong as it is for a child defective in body or mind to do or think right. An eminent criminologist has said that man is responsible for the good that he does, while for the bad we must hold accountable the diseased conditions of his body or mind. This interesting and beneficial work should be developed systematically from year to year, and sufficient appropriations should be made to insure that it is thorough and continuous.

PHILADELPHIA.

Neurological Society Gives a Banquet.—The American Neurological Society closed its annual session with a banquet at the Bellevue-Stratford Hotel. Sixty members attended, and Dr. William Spiller, President of the Society, was toastmaster. Dr. S. Weir Mitchell spoke at some length on the possibilities of the profession outside of their medical field.

Seeks the President's Aid.—Food Commissioner Warren went to Washington this week to lay before the President a set of complaints against Federal officers of this State. The chief complaint which Dr. Warren has to make involves an officer from the eastern part of the State, who, when authorized to buy butter for Government use, deliberately substituted oleomargarine. As proof of his contention the Food Commissioner will submit analysis of the material substituted.

Pink Eye Epidemic in the City.—This disease is epidemic in Roxborough, Wissahickon, Manayunk, Frankford, and is gradually spreading toward the center of the city. It is especially prevalent among school children; consequently many children are sent home from school, especially from the Manatawna and Shawmont Public School. In many homes the entire family is affected and numerous cases have been treated at the Medico-Chirurgical, Hahnemann and St. Mary's Hospitals, during the last two weeks. Physicians are attributing the cause of the disease to uncleanness and carelessness.

Coroner Complimented by Physicians.—Coroner Dugan received a letter signed by many prominent physicians complimenting him upon the efficiency which he has displayed in conducting his office; they also expressed regret that he was not renominated. The following were signers of the letter: Drs. John B. Deaver, Joseph S. Neff, S. Solis Cohen, William P. Hearn, J. C. Da Costa, Jr., Ernest La Place, James M. Anders, L. Webster Fox, J. C. Wilson, J. Chalmers Da Costa, William B. Van Lennep, Orville Horwitz, Henry W. Stelwagon, Joseph C. Guernsey, John V. Shoemaker, Charles S. Hirsch.

Research Fellowship.—Professor W. W. Keen has presented to the trustees of the Jefferson Medical College \$5,000, to found a memorial to his wife, and to be known as the "Corinna Borden Keen Research Fellowship." The conditions of the fellowship are such, that when the principal has accumulated \$500 this sum shall be awarded by the trustees on the recommendation of the faculty to an alumnus of the Jefferson Medical College who has graduated not more than ten years and not less than one. The man to whom the fellowship is awarded shall spend one year in Europe or in America, or wherever the best facilities exist, working upon some problem which he may select after conferring with the faculty. He must publish a paper embodying the results of his investigations. The first award will be made early in 1907.

CHICAGO.

Appointment of Miss Ahrens.—Miss Minnie H. Ahrens, a graduate of Columbia University, and of

the Illinois Training School for Nurses, has been appointed Superintendent of Provident Hospital.

To Open a Sanitarium.—Dr. George F. Butler, of this city, has gone to Oklahoma on a hunting trip, and upon his return, the first of July, will open a sanitarium for the treatment of chronic nervous diseases.

Dr. Senn Remains Chief of Surgical Department of Rush Medical College.—It has been announced that Dr. Nicholas Senn will remain as the head of the surgical department of this institution, limiting his duties to clinical work in the fall semester. Dr. Arthur Dean Bevan retains his position in the department.

Dr. Murphy to Stay at Mercy Hospital.—Although Dr. John B. Murphy has resigned the Chair of Surgery in the Northwestern University Medical School and has accepted the same position at Rush Medical College, the change from one school to the other does not affect the relations he holds with Mercy Hospital, and he will continue to be attending surgeon.

Rush Medical College Will Add a Fifth Year.—It has been announced by this college that beginning with the session of 1905-1906 a fifth year will be added to the curriculum, which for the present will be optional. The work of this year will be that of (a) a fellowship in one of the departments of the college, or (b) an internship in the hospital under the following conditions: (1) Each student taking such work will be under the supervision of the faculty by whom the hospital in which the internship is taken must be approved. (2) The student must present evidence of thorough clinical work and, if possible, an exhaustive study of a selected group of clinical cases involving original work. (3) He will be required to pass a special examination at the end of the year. On the successful completion of this fifth year he will receive the degree of Doctor of Medicine *cum laude*.

Circular on Care of Babies by Illinois State Board of Health.—The State Board of Health of Illinois has published a circular for mothers, giving instructions as to the best methods of infant feeding and care during the summer months, during which time the death-rate among children under fifteen months is unusually large. Statistics have demonstrated that one-fourth to one-third of all babies born fail to live to the beginning of the second year of life. It is not the heat alone which is responsible for this high mortality. By far the greatest number die from improper food, improper feeding, inability to digest and assimilate the food given. Aside from this work of education the Board of Health will institute other means of protecting the infants of the State from impure milk, and will adopt other plans for reducing the mortality among children. The laboratory at Springfield, which is now prepared for greatly increased work, will probably take an active part in this work.

GENERAL.

Jacksonian Prize.—The Jacksonian prize of the Royal College of Surgeons of England has been presented to Mr. Herbert J. Paterson.

University Loss in Brazil.—The Medical College at Bahia, Brazil, with its equipment and valuable library, has almost totally been destroyed by fire.

Appointment of Dr. McLaughlin.—Dr. Allan McLaughlin has been appointed head surgeon of the Marine Hospital at Naples, in the service of the United States.

A New Sanatorium in Colorado.—Dr. S. E. Solly, with the aid of a number of prominent physicians and laymen of the country, has opened the new Cragmor Sanatorium at Colorado Springs, for the treatment of incipient cases of tuberculosis. Dr. Solly hopes in time to be able to make the enter-

prise one of the type so well exemplified in the Adirondack Sanatorium at Saranac Lake.

The International Anatomical Congress at Geneva.—The first International Congress of Anatomists will be held, writes *Science*, at Geneva, Switzerland, on the 7th and 10th of August. The following national societies are to participate in this congress: The Anatomical Society of Great Britain, the Anatomische Gesellschaft, the Association des Anatomistes, the Association of American Anatomists and the Unione Zoologica Italiana. The organization of the congress has been entrusted to a committee representing these societies, and consisting of Professors Minot, Nicholas, Romiti, Symington and Waldeyer. The presidents thus far named are Professor Sabatier, of Montpellier; Professor Romiti, of Pisa, and Professor Minot, of Harvard. The vice-presidents are Professor Bugnion, of Lausanne; Professor Valenti, of Bologna, and Professor Carl Huber, of Ann Arbor. A general circular is in preparation, which will shortly be distributed to all members of the various societies taking part in the congress, and to such other persons as may request to have it sent to them. The congress owes its successful initiation largely to the zealous devotion of Professor Nicholas, of the University of Nancy, and inquiries as to further details on the part of those interested may be addressed to him.

Association of Medical Librarians.—The eighth annual meeting was held Saturday, June 10, 1905, at the Boston Medical Library. The new building of the Boston Medical Library Association, 8 The Fenway, Boston, Mass., was inspected. James R. Chadwick, of Boston, Mass., spoke on some points in the interior arrangement and construction of a building for a special library; the special library being, in a majority of cases, the property of a society, the requirements of the society must be taken into consideration. (a) Is it desirable to have the reading rooms on the first floor? (b) Is one large reading room with gallery containing private rooms for dictation preferable to two or three smaller rooms? (c) Is it better to have all the book stacks in one place (built to permit of horizontal as well as vertical expansion, according to space), or divide them as illustrated in the new public library building now being constructed in New York City? (d) Is it preferable to have the stacks built with a uniform width of shelving, say ten inches, so as to permit keeping all books of a class together (folios proper not considered, as they are kept apart in any case): or, secondly, to follow the old plan of having the lower shelves twelve inches, and the upper shelves eight inches wide; or, thirdly, to have one or more sections, with shelving twelve inches wide, at the end of each row of stacks composed of eight-inch shelving?

Surgery, Gynecology and Obstetrics.—A new periodical with this name is announced. The journal will contain a wide survey of the Surgery, Gynecology and Obstetrics of the world. (1) Original articles upon practical, experimental, and statistical subjects will be judiciously selected from all available sources and will constitute a major portion of the magazine. (2) Comprehensive Original Abstracts from local and foreign journals will form another important department. (3) New books will be noticed, and those deserving consideration will be thoroughly and carefully reviewed. It will be the aim of the journal to make this department valuable to book buyers and book publishers, inasmuch as space enough will be furnished to reviewers in which to make a comprehensive critical survey of the book under consideration. (4) Live subjects will be considered editorially. The editorials will be written

by masters who will be selected because of their fitness to speak on the subject under consideration, and such editorials will be, as a rule, signed. (5) Society Reports will be a conspicuous feature of the journal. The larger societies at home and abroad will be thoroughly reported each month with adequate stenographic reports of discussions and abstracts of papers when the papers themselves are not published in full. The editorial policy contemplates the editing of the magazine by practical men of authority in their respective specialties. This will be accomplished by a systematic division of labor, making it possible for each man to do a small but definite and important part of the whole. This eliminates the figure-heads and will stamp with authority the contents of the journal. The journal is to be financially supported by a stock company of Chicago physicians, organized for its publication. In construction the journal will represent the very highest class of magazine making. It will be printed upon high-grade enameled paper, that it may show illustrations to the best possible advantage. Inserts of lithographic reproductions will be furnished when illustrations of value require them. Care will be observed to cultivate the use of high-grade illustrations for all important articles. We wish the venture a long and useful career.

The Grievances of the Medical Profession in Great Britain.—This is the title of an interesting article in the April 1, 1905, number of the *Lancet*. The following subjects are discussed in detail: "The Evils of Quackery," "Quack Advertisements," "Prescribing Druggists," "The Pharmaceutical Society and Dispensing by Medical Assistants," "The Prescribing Optician," "Registered Midwives," "Parish Nurses," "The Prescribing Parson." With the latter two conditions the medical profession of America have little or nothing to do, but as it shows human nature we quote the paragraph pertaining to this subject in full. "If these women (the district and parish nurses) are unscrupulous in their interpretation of their duties they can supplant the medical man. Undoubtedly, the services of such nurses are of great benefit to the community, but undoubtedly also by preventing medical assistance from being called they have proved now and again a source of danger. As a rule, the district and parish nurses do not take medical duties to any great extent upon themselves, but they are apt to breed mischief by preferring to work with certain medical men to the exclusion of other medical men, and for a medical man to be dependent upon the patronage of a nurse is as galling as it is for him to be ousted from practice at the caprice of a nurse. Occasionally a parish nurse is backed up in her wayward behavior by the parish clergyman and then the medical man, if he is not in favor with the clergyman, is indeed likely to have scant justice dealt to him. Clergymen, especially English country clergymen, are known to have violent medical opinions and prejudices. Many of them, like Sydney Smith, prescribe for their parishioners, but they do it without the great humorist's medical education and natural shrewdness. Woe be to the country practitioner who ventures to reprove the prescribing parson." It is the fad of to-day to remedy all evils, whether of capital or labor, or of patient or doctor by legislation. Medical men are no match for the politicians, whether it be a State legislator working with problems arising from without the medical profession, or a member of a board of managers of a hospital having to do with reform arising from within the medical profession itself.

—*Medical Notes and Queries.*

West Virginia State Medical Association.—This association held its thirty-eighth annual meeting in the Board of Trade Hall, Wheeling, W. Va., May 24 to 26, 1905. The following papers were read: "The Teachings of Failures," by Dr. F. L. Hupp, of Wheeling; "The Palliative Treatment of Prostatic Hypertrophy," by Dr. H. E. Sloan, of Clarksburg; "Preoperative and Postoperative Treatment of Surgical Cases," by Dr. J. E. Cannaday, of Paint Creek; "Appendiceal Abscess—Pathology and Treatment—Report of Cases," by Dr. S. M. Mason, of Clarksburg; "Injuries of the Head—Report of Cases," by Dr. Henri P. Linsz, of Wheeling; "Anatomical and Physiological Principles Involved in the Symptomatology of Brain Traumatism," by Dr. J. Schwinn, of Wheeling; "Office Treatment of Rectal Diseases," by Dr. William M. Beach, of Pittsburg. Symposium on Pneumonia: "Etiology," by Dr. S. S. Wade, of Morgantown; "Pathology," by Dr. L. O. Rose, of Parkersburg; "Symptoms and Signs," by Dr. W. W. Tompkins, of Charleston; "Treatment," by Dr. L. D. Wilson, of Wheeling; "Tuberculosis," by Dr. J. W. Preston, of Keystone; "Pseudomembranous Croup," by Dr. S. W. Bush, of Parkersburg; "Cases and Experiences of Interest," by Dr. W. H. Sharp, of Parkersburg; "Diseases of the Kidneys," by Dr. M. McNeillan, of Parkersburg; "Rupture of the Bladder," by Dr. J. R. Cook, of Fairmont; "The Importance of Early Diagnosis of Intercostal Lesion," by Dr. H. R. Johnson, of Fairmont; "Ficker's Diagnosticum," by Dr. L. O. Rose, of Parkersburg; "Drugs and the Diazo Reaction—A Communication," by Dr. William W. Golden, of Elkins, and "Notes on Tuberculosis," by Dr. Andrew Wilson, of Wheeling, W. Va. Webster Springs, W. Va., was chosen for the next place of meeting and the following officers were elected: President, S. S. Wade, Morgantown, W. Va.; First Vice-President, G. W. Bruce, Moundsville, W. Va.; Second Vice-President, F. L. Hupp, Wheeling, W. Va.; Third Vice-President, A. S. Grimm, St. Mary's, W. Va.; Secretary, Wm. W. Golden, Elkins, W. Va.; Treasurer, V. T. Churchman, Charleston, W. Va. Councillors: First District, A. O. Flowers, Clarksburg, W. Va.; Second District, A. R. Warden, Grafton, W. Va.; Third District, W. W. Hume, Suisunimont, W. Va.; Fourth District, W. N. Burwell, Parkersburg, W. Va.; Fifth District, T. W. Moore, Huntington, W. Va. Delegates to American Medical Association: Dr. J. L. Dickey and L. P. Wilson, of Wheeling.

American Climatological Association.—The twenty-second annual meeting of the association will be held at Detroit, Michigan, June 29 and 30, 1905. The following papers are to be read: "President's Address," by Dr. W. F. R. Phillips, of Washington, D. C.; "Health Resorts in Southern California; Personal Experience," by Gen. C. H. Aldens, U.S.A., Ret'd, of Newtonville, Mass.; "Climatology of the Laurentians," by Dr. A. D. Blackader, of Montreal, Canada; "The Climate of Southern Florida for Chronic, Cardiac and Vascular Disease," by Dr. E. L. Shurly, of Detroit; "Climate of the East Coast of Florida," by Dr. Frank Fremont-Smith, of Washington, D. C.; "Relations of the Practitioner to the Physician at Health Resorts," by Dr. C. W. Richardson, of Washington, D. C.; "Hemoptysis in Cardiac Disease," by Dr. Roland G. Curtin, of Philadelphia; "Blood Pressure at High Altitudes," by Dr. C. F. Gardiner and Dr. H. W. Hoagland, of Colorado Springs; "The Influence of Climate Upon Gout," by Dr. C. C. Ransom, of New York; "Permanency of

Results in the Treatment of Pulmonary Tuberculosis; the After-History of Twenty-seven Cases Treated by the Combined Hygienic-Dietetic, Open-Air, and Tuberculin Treatment," by Dr. F. M. Pottinger, of Los Angeles; "Impalpable Sputum," by Dr. Norman Bridge, of Los Angeles; "The Main Factor in the Spread of Tuberculosis—Sputum from the Ambulant Cases. What are we going to do about it?" by Dr. DeLancey Rochester, of Buffalo; "The Plan of the Cleveland Antituberculosis League," by Dr. J. H. Lowman, of Cleveland; "The Sea-Air Treatment of Tuberculosis of the Bones and Glands in Children. Illustrated by Lantern Slides," by Dr. John Winters Brannan, of New York; "Respiratory Movements of the Bronchial Tubes," by Dr. E. Fletcher Ingals, of Chicago; "Some New Points of Least Resistance in the Consumptive," by Dr. Thomas J. Mays, of Philadelphia; "Pneumonia in the Negro," by Dr. Thomas D. Coleman, of Augusta, Ga.; "An Unusual Case of Anthracosis Mistaken During Life for Aortic Aneurism," by Dr. Henry Sewall, of Denver; "The Preventive and Remedial Treatment of Acute Rheumatic Endocarditis. Discussion to be opened by Dr. R. G. Curtin, Philadelphia," by Dr. Beverley Robinson, of New York; "Paper," by Dr. Thomas Darlington, of New York; "Paper," by Dr. Samuel A. Fisk, of Brimfield, Mass.; "An Inspection of the Eastern State Penitentiary, Pennsylvania, with Reference to Tuberculosis," by Dr. Guy Hinsdale, of Hot Springs, Va.; "Immobilization of One-Half the Thorax with the Author's Completed Scheme for Preparing and Applying Traction Plasters to Arrest Pulmonary Hemorrhages, to Relieve Pleuritis and to Contract Lung Excavations," by Dr. Charles Denison, of Denver.

Meeting of the Trustees of the United States Pharmacopoeia.—The fifth annual meeting of the Board of Trustees of the United States Pharmacopoeial Convention was held at the Philadelphia College of Pharmacy, May 13. The members present were: Dr. J. H. Beal, Scio, O.; Mr. Albert E. Ebert, Chicago; Professor Joseph P. Remington, Philadelphia; Mr. S. A. D. Sheppard, Boston; Dr. H. M. Whelpley, St. Louis; Dr. H. C. Wood, Philadelphia. In the absence of Chairman Charles E. Dohme, who is in Europe, Vice-Chairman Beal called the meeting to order. The minutes of the fourth annual meeting and the intervening correspondence of the board were read and approved. It was decided that a sample page or pages of new books in which it is desired to use some of the text of the Pharmacopoeia shall be submitted to the chairman or acting chairman for approval before permission to use Pharmacopoeial text be given. Professor Remington, Chairman of the Committee on Revision, made a detailed report of the progress of the work and stated that the new Pharmacopoeia would be out before the end of June. The action of the chairman in fixing August 1, 1905, as the date from which the new revision will be official, was approved. One hundred unbound copies will be distributed simultaneously to pharmaceutical and medical journals for review purposes. All books paying for the use of Pharmacopoeial text will be required to print upon the obverse of the title page the following words in full-face or black letter type: "Authority to use for comment the Pharmacopoeia of the United States of America, Eighth Decennial Revision, in this volume, has been granted by the Board of Trustees of the United States Pharmacopoeial Convention, which

Board of Trustees is in no way responsible for the accuracy of any translations of the official weights and measures or for any statements as to strength of official preparations." The subject of a Spanish edition of the Pharmacopoeia was reported upon by President Wood. He was instructed to continue his investigations and again report to the board. Dr. Wood finds considerable demand for a Spanish edition of the United States Pharmacopoeia in Cuba, Mexico, Costa Rica and Porto Rico. The Rice Memorial Fund Committee made a final report. Mr. S. A. D. Sheppard was appointed a special committee of one to take charge of this fund and deposit the same in the name of the Board of Trustees of the United States Pharmacopoeia Convention. It was decided that as soon as sufficient moneys shall have been received after paying present indebtedness and current bills that the sum of \$200 be paid to each member of the Committee on Revision, excepting the chairman (Prof. J. P. Remington), to whom shall be paid \$2,000; to the secretary of trustees (Dr. Murray G. Motter), \$500; and the treasurer of the convention (Dr. George W. Cook), \$200. The secretary of the board reported progress on the Abstract of Proceedings of the Board of Trustees and further action was postponed. The following officers and standing committees were elected for the ensuing year: Chairman, Charles E. Dohme, Baltimore, Md.; Secretary, Dr. Murray G. Motter, Washington, D. C.; Executive Committee, Dr. J. H. Beal, Scio, O. (chairman); Dr. H. C. Wood and Charles E. Dohme. Auditing Committee, Dr. H. M. Whelpley, St. Louis, Mo. (chairman); Dr. A. E. Ebert, Chicago, and S. A. D. Sheppard, Boston, Mass. H. M. Whelpley, Secretary.

The Microbe Killer Redivivus.—In an article on "The History of Antisepsis and Antiseptics," which appeared in *The Medical Review*, of St. Louis, September 30, 1893, it was stated that one Sir John Colbatch, of England, in the year 1698, prepared an aqueous solution of sulphurous acid which he recommended to the public and the medical profession in the following words: "It is an excellent medicine, being taken by way of prevention in infectious seasons, and I think if any medicine deserves that name this doth deserve to be called the true prophylacticon." The *Druggist's Circular*, of New York, in an able editorial exposé of a recent proprietary article, says: "For many generations sulphurous acid, in aqueous solution, has been prescribed to some extent by the medical profession, but its keeping qualities are so poor and, if too strong, its dangers so great that it has practically dropped out of use even in those cases in which it is known to be efficacious. There can be no reason for questioning its power as an antiseptic. Ages before we knew anything about bacteria and other microparasites as causes of disease, the power of antiseptics as preventives was fairly well known. How antiseptics acted in order to bring about the effects that had been observed in connection with them was then wholly unknown, although a few shrewd guessers had come pretty close to the true explanation. Potent as sulphurous acid ought to have been in accordance with theory, when it was tested in practice it proved a dismal failure. About seventeen or eighteen years ago one William Radam undertook to resurrect the dead "prophylacticon" of Sir John Colbatch. In spite of his faith in his preparation as a cure-all Mr. Radam died a few years ago, and now that its patent has expired liqozone has come in to take the place of the 'microbe killer.' We suspect that some of the men who held territorial rights from and paid royalties

to Mr. Radam in bygone days have taken part in its resurrection under the name of liquozone. The appearance of this new supposed wonder-worker is characteristic of the old one and the time of its advent is suggestive of its origin. Like the microbe-killer, its composition is evidently inconstant, if we can judge from the numerous analyses that have recently been made of it. They all agree in declaring that it contains sulphuric acid and sulphates, sulphurous acid and sulphites, water and a trace of coloring matter. A number of specimens have shown the presence of hydrochloric acid and chlorides. Some have declared that hydrobromic acid was present, but it has been suggested that since the usual tests for bromides differ from that for chlorides only in a slight yellowness of the precipitate, that the color of the liquor in which the precipitation occurred may account for the supposition that bromides instead of chlorides were present. Under Radam's original patent, sulphur, potassium chloride, sodium nitrate, and manganese dioxide were heated to a high temperature together in a metal cylinder or retort and the resulting gases were taken up by water until it was saturated. The first products marketed evidently did not give satisfaction, for Radam had a change made in the specifications by substituting potassium chlorate for potassium chloride. The product of the first formula had sulphuric acid and hydrochloric acid as the chief ingredients. The water was colored with a little wine. As soon as potassium chlorate was used, the chief product, and the one aimed at by the manufacturers, was sulphurous acid. The weighing, mixing, heating and absorbing of the gas in the solution were attended to by men who knew little or nothing about chemistry, so, naturally, the product was never twice alike. Usually it contained some nitrous acid and some nitric acid, but these seem to be absent from liquozone. The Ligozone Co. has published the following statement regarding its process: 'The virtues of liquozone are derived solely from gas, by a process requiring immense apparatus and from eight to fourteen days' time. The gas is made, in large part, from the best oxygen producers. Nothing whatever enters into the product save the gas and the liquid used to absorb it, plus a touch of color.' This description is practically the same as that which was printed in the Radam literature, and is, as far as it goes, a simple statement of the truth regarding the way in which Radam's preparation is made. The best oxygen producers are potassium chlorate and manganese dioxide. The liquid used to absorb the gas is water, and the touch of color may be the same sort of red wine that Radam used. The clumsy, crude apparatus patented by Radam, if put up in a size commensurate with a large output of the stuff, could properly be spoken of as immense. The slow and stupid method of causing absorption pursued under the old patent may actually make necessary from eight to fourteen days' time to saturate the solution when there is a large amount of the liquid to be treated. If the makers of liquozone were as truthful in all their statements as they seem to be in the description they give of the way their preparation is made, it would be a delightful and refreshing evidence of the improved morals of the class of nostrum venders in which they have taken their place. Unfortunately this is not the case. The very name they have chosen was evidently designed to mislead and deceive. Nothing could be farther, chemically, from ozone than is this preparation. The claims they make regarding its therapeutic worth would be laughable, because of the crass ignorance and stupidity which they betray to the educated mind, if it were not that they are so tragic in their results upon a community ignorant alike of human

physiology and the effects of drugs. One would think that intelligent people who are wholly ignorant of medical matters would know that the statement that 'one home in five—wherever you go—has some one whom liquozone has cured,' was not true. Perhaps they do—and leave liquozone alone. How easy it would be for any person to prove the untruth of the assertion that 'for years it was tested through physicians and hospitals, in this country and others' by demanding of the liquozone people the names of these hospitals and physicians. The statement that it is harmless can easily be proven false by taking a goodly supply on a fasting stomach or administering it undiluted to some animal."

OBITUARY.

Dr. IRA P. SMITH died last week at Bath, N. Y. He was sixty-nine years old, and served as a regimental surgeon in the Civil War.

Dr. JOHN WILLIAMS STREETER, many years a leading Chicago physician, died at his country home in Lake Forest, from blood poisoning, resulting from a surgical operation.

Dr. LAWRENCE C. SWIFT died last week at Pittsfield, Mass. He was a native of Geneva. His grandfather was the first graduate of West Point and later was its Superintendent.

Dr. EDWARD PAYSON DROWN, a prominent Malden (Mass.) physician, died from blood poisoning, following an operation for appendicitis. Dr. Drown was born at Keene, N. H., thirty-nine years ago, and was educated in the public schools there. He entered Amherst and won his A. B. in 1889. At Harvard he took his M. D. in 1893, and immediately thereafter settled in Malden. He was city physician of Malden in 1895, '96, '97 and '98; past president of the Malden Medical Society; district censor of the Massachusetts Medical Society; on the medical staff of the Malden Hospital; director of the Malden Boy's Club; a member of the Malden Chapter of the Sons of the American Revolution and prominent in the First Congregational Church.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, May 20.

THE CRUSADE AGAINST TUBERCULOSIS—PROPOSED AMALGAMATION OF LONDON MEDICAL SCHOOLS—THE STATE REGISTRATION OF NURSES—PLAGUE IN INDIA.

ON May 17 a great meeting was held under the presidency of the Lord Mayor for the purpose of making the merits and needs of the National Association for the Prevention of Consumption and other Forms of Tuberculosis known to the public. Sir William Broadbent, the Chairman of Council, bearing the blushing honors conferred in Paris fresh upon him, went over the familiar ground of the prevalence of consumption, the heavy tribute of human lives caused by it, the financial loss thereby entailed upon the nation, and the causes, predisposing, exciting and contributory, which led to its production. He pointed out that one of the objects of the Association had been to teach the public the mischief which arose from expectoration, and they had endeavored to make indiscriminate spitting a punishable offense. To a certain extent they have been successful, but had the eminent physician told the whole truth he would have added that the education of the British public in this matter can scarcely be said to have begun. In railway carriages, omnibuses and trams and in streets and other public places the free-born Briton of the commoner kind expectorates

just as the spirit moves him. Sir William Broadbent stated that although the mortality from consumption had in the last half century been reduced by one-half, it was a sad fact that tuberculosis generally had not diminished among children. The Association, which has branches all over the country, is striving to stir up public authorities to take an active part in the work of prevention. Much has been done in the way of voluntary notification of the disease, and in some places compulsory notification has been adopted. Broadbent expressed a hope that before long it would be adopted in London. Dealing with the sanatorium question, he admitted that while these institutions are doing an immense amount of good, a certain amount of disappointment has arisen owing to their being used for unsuitable cases. The work of the Association has grown considerably, and it must continue to grow. A central bureau is wanted to which people can apply for information as to consumption and learn what is being done. The Earl of Derby, who followed, referred to the great interest felt by the King in the problems of tuberculosis, and directed attention to the three ways in which the war against consumption was to be waged—by prevention of the disease, by remedial measures, and by the prevention of relapses. He suggested that the Association should do all in its power to find means of segregating advanced and incurable cases. Sir James Crichton Browne also mentioned the King, whom in his rhetorical style he declared to be a promoter of amity between nations but of implacable war against disease. The name of the King is the favorite refuge of the public orator in this country, for it is always greeted with loud applause, and the snobs who make up by far the largest part of any audience think it "good form" to affect an interest in anything that has the patronage of royalty. Leaving the monarch, Browne, who has a *copia fandi* almost equal to Gladstone's, surveyed mankind from Canada to New Zealand and urged London to imitate the example set by Ottawa, Adelaide, and Cape Town, in all which places he would have people to believe that branches of the Association flourished. A hearer, who like Iago was nothing if not critical, might have interjected that if London had done no more than the colonial capitals just mentioned, there would have been little indeed for Sir James Crichton Browne to exercise his eloquence upon. He went on to say that sanguine persons thought that tuberculosis might be eradicated in thirty years, while more cautious prophets said this consummation might be achieved in a century. Browne holds that the work of sanitation is by no means complete, and he has no doubt that the feeding of school children, if properly carried out, would lead to a large reduction in the prevalence of tuberculosis. The most remarkable passage of his speech was one in which he referred to the prospect of a cure being found. He said it was hoped that medical science would provide some remedy for consumption. Some did not think so, but Browne avowed himself an optimist and confessed that he was eagerly looking out and thought he could perceive some hopeful indications in that direction. On the exact nature of these indications the oracle was prudently dumb. The Association wants a sum of fifty thousand dollars for its immediate necessities and the meeting pledged itself to support the appeal made to the public for subscriptions.

Reference has several times been made in these letters to the detriment to medical education here caused by the scattering of teaching power among eleven independent medical schools. Each of these is attached to a hospital, and most of them require to be subvented

to a greater or less extent from the funds of the hospital. This has given a handle to the enemy which the antivivisectionists have not been slow to use. Stephen Coleridge, their chief, after clamoring for years about the diversion of money subscribed for the benefit of the sick-poor to the support of vivisection at last, got a Royal Commission appointed to inquire into the matter. That Commission reported that most of the schools received money from the hospitals and that while the schools made some return in the form of services rendered by students, by bacteriologists, etc., this did not altogether constitute an equivalent. The Commissioners therefore recommended that the hospitals and the schools should be financially independent of each other, and that the teaching of the subjects which form the scientific basis of medicine should be carried out in two or three large centers or institutes of a university character established for that special purpose. In other words it was recommended that the medical schools should be abolished and that the hospitals should confine themselves to clinical teaching. This is exactly what had been urged by medical reformers for years, but vested interests kept the schools from dancing to their piping. Then came the foundation of several universities in the provinces—Manchester, Liverpool, Birmingham and Sheffield—each offering a good medical training and degrees on fairly easy terms. As a consequence London has for some years past seen students in increasing numbers set their faces in other directions, and her medical schools drifting slowly but surely to bankruptcy. At last the schools are beginning to realize that their day is past, and amalgamation is in the air. Westminster Hospital has arranged to send its students to learn their physics, chemistry, anatomy, physiology, and materia medica, at King's College, while they will return to it for their practical training. St. George's and St. Thomas's are negotiating with King's for the same purpose. St. Bartholomew's, the largest school of all, has arranged to hand over its students in the same way to University College, and it is not unlikely that Middlesex may follow suit. Charing Cross, which has a number of dental students, prefers to stand by itself; the London Hospital and St. Mary's are understood to have decided to do likewise, and Guy's is considering the situation. But it is scarcely possible that this attitude can be maintained; sooner or later the recalcitrants will perforce have to come into the combine. There will be three scientific institutes in which students can go through the first three years of the curriculum, to wit, University and King's Colleges, already mentioned, and the Institute of Medical Sciences of the University of London. But the last of these is still in the region of the unconditioned, and it may be years before it becomes materialized. Moreover, the situation chosen for it, which is in an expensive quarter far away from all centers of medical activity, will greatly limit the number of students. Notwithstanding many difficulties that have yet to be overcome, there can be no doubt that the movement toward concentration of scientific teaching marks the dawn of a brighter day for London as a center of medical education.

A question which is now agitating the small part of the medical profession that cares for anything beyond the trivial round of daily work is the State registration of nurses. The cooking of the pie is complicated by the number of persons and parties who wish to have a finger in it. There are two bills competing for the favor of Parliament, a body which wishes to get itself registered by the Board of Trade as a limited liability company, and other schemes which have not yet con-

densed themselves from the gaseous condition of speculative chaos. The House of Commons, finding the subject too thorny to deal with, appointed a Select Committee to take evidence and report. On May 18 Sir Victor Horsley appeared as representative of the British Medical Association, which, he said, comprised some twenty thousand members, and was, in their opinion, the only voice of the medical profession. He recalled the fact that at the annual meeting held at Oxford, in August last, a resolution had been passed approving the principle of registration. He gave it as his opinion that the registration of nurses would not bring them into competition with doctors. There should, he thought, be an examination for nurses by a statutory authority, and the passing of that examination should be the only way in which a nurse could get her name on the register. He would make it a penal offense to nurse for gain, unless the person so doing had been trained for three years in a hospital and had passed an examination. The Chairman of the Committee, having said that it had been suggested to them that the ordinary general practitioner did not hold the same view as to the registration of nurses as consultants, a provincial practitioner was put forward to contradict this. Another witness, representing the Incorporated General Practitioners' Society, thereupon testified that that body was entirely opposed to the registration of nurses, as the poorer classes of patients would be unable to pay for a skilled nurse. This, it may be said in passing, is the root of the whole matter. The trained nurse in this country is already a "superior" person whose services cost from \$10 to \$20 a week, exclusive of maintenance, and who expects so much waiting upon that she is a burden to a middleclass household and an intolerable oppression to families of limited means. Horsley's proposal to penalize the practice of nursing by any but the august beings who have passed an examination requiring a scrappy knowledge of all the medical 'ologies would deprive the vast majority of British homes of whatever comfort the presence of a nurse may bring in time of illness. Nor is the fear of the general practitioner that he will be supplanted by the highly-trained nurse by any means chimerical. Already the big operating surgeons hand over the after-treatment of their cases largely to nurses of their own choosing, and the general practitioner who provided the patient and whose recognized prerogative it used to be to look after when he had got safely through the ordeal of the knife, is simply pushed aside. There is a very considerable feeling against the measure among general practitioners, and the true significance of the resolution of the British Medical Association can be estimated only when it is known that it was practically rushed through by a jaded and distracted meeting at the bidding of Horsley himself, who was in the chair and who is a first-class "hustler." Further, the accuracy of the statement that the voice of the British Medical Association is the voice of the medical profession may be gauged by the fact that it includes considerably less than half their number. Some amusing evidence was given by Sir James Crichton Browne, who represents the British Nurses' Association. He said that nursing and nurses had enormously improved and were steadily improving, but there were still a good many incompetent nurses, and he thought registration would winnow out the ignorant, stupid and incompetent. As illustrating the state of things that used to exist, he mentioned that when he first took charge of an asylum some of the nurses could not read the directions on the medicine bottles, and had to apply to the lunatics for help. Some time ago a woman, representing herself as a mental

nurse, applied to him for a berth. Asked what her training had been, she replied that her late husband had been a policeman! Although the census returns showed that there were 80,000 nurses in the United Kingdom, he thought that number included many young women who merely looked after children. He calculated that if the system of registration was adopted not more than 3,000 nurses would be registered yearly. That allowed for the great wastage of nurses, which was an undoubted fact. He did not think the life of a nurse as such was more than fifteen years. There was first a heavy mortality through marriage, and many gave up the profession owing to other causes. In regard to marriage it may be added that many young women in this country take up nursing with an eye to matrimony. Some capture rich patients, and many who have not that luck content themselves with young medical men or hospital officials.

On May 19 Dr. Charles Creighton read a paper before the Society of Arts on plague in India, a subject which he has studied in the country affected. He pointed out, with the aid of a map, that in 1898 the plague-stricken area was comparatively small, but it is now enormous. Last year the deaths from plague in all India were about a million, of which nearly four hundred thousand were in the villages of the Punjab, and three hundred thousand in the villages of the Bombay Presidency. The enormous and steady prevalence of plague among the rural population is perhaps the most remarkable fact in the science of epidemiology, because twenty years ago people had begun to look on plague as a thing of the past, and at no previous time was India considered a great seat of the disease. Discussing the causes of plague, he pointed out that where it was most deadly the houses were close together, and where it did comparatively little harm the dwellings were scattered. Some houses which had proved favorable to the disease had neither window nor back-door. Others were really cells in a common building. Others, again, were largely below the level of the general surface, muddy clay dug out of the ground having been erected as walls round the pit thus made. After seeing many of "those dreadful mud villages," he had come to the conclusion that they were the real reason why the Indian plains were cursed with plague. Dr. Creighton, it may be mentioned, though a very able man, is to some extent a medical Ishmael. He is one of the most violent opponents of vaccination, hating the memory of Edward Jenner with the rancor of a personal enemy. He is one of the three medical men of any note in this country whom the "antivacks" regard as in a scientific sense their patron saints, the other two being Sir William Collins, a burning light of the London County Council, and Dr. Edgar Crookshank, late professor of pathology at King's College. He is also unorthodox in his views on more than one of the great doctrines of modern pathology. Dr. Creighton is the author of a very learned history of epidemics published by the University of Cambridge, where he was for some time Demonstrator of Pathology.

OUR PHILIPPINE ISLANDS LETTER.

(From Our Special Correspondent.)

HONOLULU, April 15.

SOME one in Manila asked me if I knew what "Hawaiian Fever" was, and having confessed my ignorance, he suggested looking it up if we went there on our return. Well, I did so, and the following summarizes the expert opinion of the Islands on this fever. The story goes that the term

"Hawaiian Fever" was first used in a death certificate issued by a Japanese physician practising in Honolulu and led to a thorough discussion of the question whether there was any such distinctive fever and what were its symptoms. Finally, at the meeting of the Hawaiian Medical Association in Honolulu, on Saturday, February 4, the matter was thrashed out in a paper by Dr. A. N. Sinclair, "Fevers in Hawaii and their Relation to Malaria," and in the discussion that followed.

First, and I write after talking with a number of prominent physicians, it is pretty freely agreed that the general run of fevers in Hawaii do not differ materially from those in tropical countries—*except in one notable instance*—and this, according to Dr. Sinclair, is "perhaps the most common one in Hawaii," and which, for want of a better name for the time being, the doctor designates as "Hawaiian Fever." This differs from enteric fever in the rapidity of onset and a rigor. There are no prodromal symptoms, as general malaise, nose-bleed, etc. There is not the characteristic "terrace" formation of the line as in an enteric temperature chart and there is no delirium, no rash. There is Widal's test for typhoid and in no case of the fever under discussion, even "in the dilution of 1 to 10," has Dr. Sinclair gotten this reaction.

The question as to whether Hawaiian fever was not a form of malaria brought out the very interesting fact that in the opinion of a large quorum of members of the society present on the above evening, malarial fever does not exist in the Hawaiian Islands (unless in isolated cases coming sick, off ships) and that no *Anopheles* mosquitoes have ever been found there, nor the *Plasmodium malaria* in a case of fever originating in the Islands.

The temperature in Hawaiian fever is of the remittent type; and in its mildness it resembles benign tertian (Dr. Sinclair). The temperature, however, rises suddenly, to 103° F. or higher; this rise is preceded usually, by a very short rigor, which generally takes place in the early evening; *an extremely rare occurrence in malaria*. Furthermore, though there is the initial rigor, always of short duration, there is an entire absence of intermittent chills and fever.

There is headache at the outset, not severe as in malaria, and with it nausea and vomiting, but the latter is rarely if ever bilious. There is no tenderness over the liver, no enlargement of the spleen nor icterus. A loaded descending colon is almost always present. In regard to this last-mentioned symptom, Dr. George Herbert called attention to the fact that the fever which would continue after the bowels had been cleared disappeared after the patient had been at sea even a short time. Other symptoms more or less marked, were anorexia, muscular pains in the back and limbs and a dry skin. The temperature in the majority of cases is of the remittent type, rising during the day to 103° F. or thereabouts, and falling two degree or more the next morning; reaching the normal on the third day. *There is never any recurrence of the chill and never any severe sweat*, a very important and interesting point in the differential diagnosis of Hawaiian fever.

The above, it seems, is the course pursued by the majority of cases, but occasionally the fever runs along for two to three weeks and very rarely as long as six.

These latter cases differ apparently only in a great exaggeration of all the symptoms noted in the milder ones and Dr. Sinclair notes that whether in

the long-continued form of the fever or where a patient suffers relapses, "the infrequency of bilious vomiting, the absence of icterus, and the general course of the disease puts it out of the category of bilious remittent." "The absence too, of low muttering delirium, of melanemia and the small death-rate (almost all cases of Hawaiian fever recover), take it from that of typho-malaria." Finally, it cannot be compared to adynamic-malarial-remittent fever, considering the concomitants of that disease, to-wit, the deterioration of the red blood corpuscles, the melanemia, hemoglobinuria, etc.

An exceedingly interesting point brought out by Dr. Sinclair and confirmed by other students of Hawaiian fever, was the action of quinine in this disease. This fever, it seems, is *not amenable* to this drug, indeed there are grounds for believing that, on the contrary, it is actually *harmful*. Dr. Herbert said that in his experience quinine was absolutely inert and Dr. Cooper said that in a large number of cases of "this local fever, which they had had at the Queens' hospital (Honolulu) last year, quinine had no effect upon it."

In speaking of the symptom mentioned above, the loaded descending colon, the question came up as to whether the disease could possibly be due to constipation. It would hardly seem so, since no regulation of the bowels will prevent a recurrence and the fever may persist long after the bowels have been evacuated. Native Hawaiians, I was told by Dr. J. R. Judd, are, in considerable proportion, very liable to auto-intoxication and to a persistence of ferments in their systems. Several of the physicians to whom I spoke thought that investigations along this line might lead to some elucidation of the cause or causes of the disease under discussion.

As I said in the earlier part of this letter, whatever the cause of this fever, it is not the Laveran plasmodium, but many hold to the opinion of Dr. Herbert that there may be some "miasmatic toxic action" in Hawaiian fever, as there undoubtedly is in other fevers, more or less prevalent in the Islands. And arguing along this idea he said that they did have in the Islands a fever arising from the upturning of the soil. He had seen, for instance, on the island of Maui, what had been a healthy camp, turned into a sick one, with nearly two-thirds of the men down with fever, plainly caused by turning up of the field just near by.

There is a moisture-laden cloud which hangs over Honolulu (especially the lower portions) in the morning; the emanations from the outfall sewers undoubtedly are mingled with this and Dr. Herbert said it was a well-known fact that people living within the influence of this cloud, became from time to time sick and listless, with loss of appetite and high fever. Relief from these symptoms was at once obtained by removal to a higher altitude or by a few days at sea. No plasmodium was to be found in the blood of these patients; the disease resulted from "some paludal miasma."

Dr. Cofer, head of the Marine Hospital Service, referring to what Dr. Herbert had related of the outbreak of fever on Maui, told of a similar experience in El Paso, Texas, where sickness at that time was very prevalent among the men employed on the new sewers. They would be taken with a severe chill, followed by a sweat, *quinine brought no relief* and death resulted in many instances. "Nobody pretended to throw any light on this fever. There was evidently a *paludal poison* at work."

Dr. Van Dine, of the United States Agricultural Experiment Station, having stated that in all his researches in the Islands he "had not seen a single specimen of the *Anopheles* mosquito" (a very important confirmation, by the way, of the statements of the practising physicians), one of the gentlemen present (Dr. Waterhouse) opined, that while there might be malaria without the *Anopheles* mosquito, there would not be malarial fever without this insect.

In speaking of fevers which had come under his notice, he said that at the Kamehameha schools there formerly prevailed a fever which had almost entirely disappeared since the boys had been compelled (as far as possible), to drink distilled instead of the tap water.

In closing this I should say that estivo-autumnal fever is absolutely unknown in the Hawaiian Islands.

SOCIETY PROCEEDINGS.

NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS.

First Annual Meeting, held in Washington, D. C., May 18 and 19, 1905.

FIRST DAY—MAY 18TH—(Continued).

(Continued from Page 1052.)

SOCIOLOGICAL SECTION—(Continued).

Private Benevolence.—This is not, however, exclusively a question for the city. It is also in large degree a question for private benevolence. The establishment of more and better sanatoria, and the maintenance of more and better tuberculosis dispensaries, the assistance at home of the consumptive who cannot be removed to a hospital, the care of the family whose wage-earner is under treatment, and certain portions of the educational campaign, are as appropriate for private initiative as for public action, if not distinctly more so. What is needed for these purposes is not large permanent endowments, nor moderate annual contributions for an indefinite period. The need is for unusually large contributions for a comparatively brief period. The citizen of New York who will set aside a sum of money which, together with the income upon the unexpended portion, will provide half a million dollars a year for the next ten years, will write his name large on the future history of the metropolis, will show himself a profound student of social well-being, a wise judge of the merits of various possibilities in the investment of his money, and in every city, large and small, the men of means, who feel the call of the social spirit, can find no better subject for contemplation and prayerful consideration than this which we are considering. "Let us hope that the founder of the splendid Phipps Institute will be but the first of a long line of public benefactors who will supplement the work of municipalities in this splendid service to humanity.

American Enterprise.—"We are a great people, at least so we are told. Our resourcefulness, energy and capacity for organization, are said to be the wonder of those whom we have passed in the race for industrial supremacy. We do large things in a large way and get large results quickly. We see great opportunities, appreciate the bearing of new discoveries, and move quickly, and in the right direction. Have we not now before us the greatest opportunity of all—an opportunity to invest a very small proportion of our free capital in a manner

which will yield large and quick returns in the prevention of sickness, disease, and death? Let us not, as a people, proceed in any halting, uncertain manner in the accomplishment of this task, for whose performance we now have, for the first time in the world's history, the necessary scientific guidance."

The second address at the Section was delivered by Edward T. Devine, General Secretary of the New York Charity Society and Professor of Social Economy at Columbia University, who took for his subject a working program for associations for the prevention of tuberculosis, national, State and local. Dr. Devine's long experience in charity organization work has enabled him to realize just what are the necessities of organization in the crusade against tuberculosis, and so his suggestion of a positive program cannot fail to be of interest to medical men generally.

Suggested Program.—So far as the movement for the prevention of tuberculosis is concerned, there is little difficulty in formulating a positive program. It has at least ten features: (1) The maximum of sunlight and fresh air for all mankind—at work, at leisure, and at sleep, and if there be any other occupation than these three, then while engaged in those other occupations as well. (2) An abundance of simple, and yet sufficiently varied and nourishing food, especially—to put it concretely—of pure milk and fresh eggs. (3) Early diagnosis of every case of pulmonary tuberculosis by the family physician, and the utmost attempt to secure compliance with his advice as to medical treatment and diet, change of work or complete release from regular employment, change of residence, or removal to sanatorium or hospital—such advice naturally taking into account all the circumstances of the individual patient. (4) Registration of all cases, whether in tenements or palaces, whether in city or country—not to be followed by any unnecessary interference by health board inspectors or nurses, if there is a physician in charge, or by any other invasion of privacy or other personal hardship—but enabling the duly constituted health authorities to know their problem and to deal with it on the basis of complete knowledge. I am aware that in many communities this is a counsel of perfection, but it is a part of our program. (5) The establishment of hospitals, or hospital wards, or houses of rest, or whatever other institution will best serve the purpose for advanced cases, with two primary objects in view: to make such patients more comfortable in their last months, and to diminish the centers of active infection. (6) The establishment on a generous scale of State, municipal, and provide sanatoria for the treatment of patients in the earlier stages, cases promising either cure or at least arrest of the disease, and radical improvement of general health—no expense being spared so far as essentials are concerned, no extravagance being tolerated in non-essentials. (7) Publicity as to the means of preventing infection, and as to the other elementary rules of hygiene, through every known channel of public instruction: newspapers, schools, the lecture platform, leaflets in all necessary languages, appropriate special periodicals, and instructive visits from physicians, nurses, or competent lay visitor. (8) Conference for interchange of views and experiences among those who in any way, however humble, are working at the common task and associations for educational and preventive work. (9) Relief in various forms, but especially in the form of special diet for those who can and must be treated at home, rather than in sana-

toria, and who are without sufficient income to provide for the necessities of life—which in some cases include the prescribed diet essential to life and recovery. (10) And finally, further research. Even here, where I am a rank outsider, I must round out my statement of our general program. We need more knowledge, better authenticated records, further comparison of results, ever more and more accurate knowledge—and for these we must have laboratories, endowments, and favorable conditions for scientific research, travel for observation and study abroad, and training for fruitful investigation.

Unfortunately, there is not space for the rest of Dr. Devine's suggestive address. Some of the conclusions, however, which show how clearly he has recognized the medical needs and how he appreciates the situation, will not only be of interest but will appeal especially to physicians who are apt to be so close to the work as not to recognize some of its details.

Specific Measures.—Dr. Devine said that the specific measure for which a local association or committee for the prevention of tuberculosis should work, naturally vary with the size and the character of the community in which it is to operate. It is safe to suggest to all the desirability of securing the services of an executive secretary who need not, but sometimes may advantageously, be a physician, an office open at convenient hours for callers, and as much of a constitution or by-laws as will insure regular meetings of a governing body, and the fixing of responsibility for work to be done. If there is no special hospital for consumptives or separate ward in a general hospital, that will frequently be a good objective point of attack. In this connection the pamphlet published by the New York Committee on the Prevention of Tuberculosis, entitled, "County and City Care of Consumptives," showing various methods of safe and economical housing will be suggestive. If there are many who are not receiving suitable medical oversight, and who are likely not to consent to removal to a hospital, it may be expedient to establish a special dispensary with both medical and nursing service, or, if dispensaries already abound, to organize in existing dispensaries classes for pulmonary tuberculosis, for the double purpose of removing these patients from the general waiting rooms when they are occupied by other patients, and securing for the consumptives the advantage of closer specialization and more appropriate treatment.

Inadequacy of Hospitals and Dispensaries.—There is as yet no city of considerable size in the United States in which there is even an approach to adequate hospital and dispensary facilities for consumptives. In these two tasks alone, therefore, there is ample opportunity for useful service for all the associations which are likely to be formed in the near future. Washington, the national capital, until one year ago had no hospital, sanatorium, or dispensary for consumptives, although the Home for Incurables, with its limited resources, did not refuse to receive advanced cases of pulmonary tuberculosis. It is not impossible that there may be some relation between this lack and the fact that the city of Washington, in 1900, had a death rate higher than that of any other city except New Orleans, and a death rate from tuberculosis higher than that of any other city New Orleans and San Francisco. The pavilion at the Asylum Hospital opened last year accommodates thirty-four patients which is about one out of seventy-five of the total number of consumptives

in the city. Baltimore with 135 hospital beds for consumptives, Boston with 250, Chicago with 400, St. Louis with 100, and New York with 1,000 have but begun to provide for the need.

Professional Education.—Next to the creation of hospital and dispensary facilities, possibly of even earlier urgency, is the necessity of educating the rank and file of the medical profession as to the necessity for early diagnosis, registration, and protection from infection by all conservative measures. One eminent physician has gone so far in declaring that on a subject like this it is infinitely easier to secure the cooperation of the tenement house population, than to win that of the doctors. I hold that to be an unduly pessimistic view, thought it was based on sad experience. Without going so far, it may still be permitted courteously to point out that if the specialists and the pioneers are right, the practice of a very large number of family physicians is wrong—wrong, that is to say, in not making sure from the first manifestation of the disease in any member of the family that rigorous prophylactic measures are taken to insure immunity for the others, and wrong in the failure to join heartily in securing the adoption of energetic educational and preventive measures.

Creation of Public Opinion.—And next after these two great undertakings, comes the yet greater, and it may be we should say even more elementary undertaking, to which repeated reference has already been made—the creation of a sound public opinion, midway between indifference and phthisiophobia, an enlightened public opinion in which every one is frightened just enough to act sensibly, and not enough to act foolishly; just enough to insure necessary public appropriations and private donations, but not enough to make it difficult for a cured and educated consumptive to find a job, just enough to cause the railways to disinfect the hangings of a sleeping car and the cushion of a day coach, but not enough to cause them to refuse to an indigent consumptive girl, on her way to a sanatorium, the charitable reduction which is given to other indigent persons; just enough to cause the city to build a sanatorium, but not enough to induce the legislature to permit local prejudice to close county after county to the urgently needed sanatorium, except on a bribe to the county commissioners, and the township trustees. When this happy golden mean of public opinion is to be found in every community, the death-rate from tuberculosis will diminish with a rapidity which will enable us to contemplate the speedy dissolution of our association for the prevention of this disease, and will release for the next big task the energy and the financial resources which for the present are imperatively demanded for this above all others.

PATHOLOGICAL AND BACTERIOLOGICAL SECTION.

SECOND DAY, MAY 19TH.

The Chairman of the Section, Dr. M. P. Ravenel, of Philadelphia, in the Chair.

Channels of Tuberculous Infection.—Dr. William H. Welch, of Baltimore, said that, in a broad way, the subject of channels of infection of tuberculosis may represent all the sources of the disease as well as the avenues of entrance. Of the frequency of tuberculosis there can no longer be any doubt. Naegeli pointed out years ago that in the autopsies on subjects who died past middle age there is a very large proportion in which tuberculosis lesions can be

found. As a matter of fact, if care is exercised in the investigation, over 95 per cent. of all bodies of persons that have died over eighteen years of age may be shown to contain tuberculous lesions. These lesions are usually healed, but it shows that practically everyone has been affected by the tubercle bacilli at some time in life. Burckhardt, in Leipsig, found the confirmation of this work of Naegeli, and Necker, in Vienna, came to the same conclusions, though he suggested certain considerations that would modify the supposed significance of his observations.

Tuberculosis Not Ubiquitous.—These observations would seem to indicate the practical ubiquity of tuberculosis. As pointed out by Cornet, however, this states the frequency of tuberculosis in terms of the dead and not of the living, which is not the proper way. Even when the living are considered, the statistics are startling enough. On the other hand, the material thus investigated is from certain localities in which tuberculosis is rather more frequent than in many other places, and then besides, it is from the patients in large hospitals, who are more likely than others to have had at sometime an opportunity for infection with tubercle bacilli. It is certain that if there were compulsory vaccination for all cases, the number infected with tuberculosis would be found smaller than this. Besides, Necker questions if all the lesions that are found are really healed lesions of tuberculosis. He disputes nearly 25 per cent. of the cases as being of non-tuberculous origin. This would leave at most scarcely more than 70 per cent. of all bodies as having had at some time tubercle bacilli actively at work in them.

Reasons for Cure.—It would seem that in these cases the fact that the patients did not die of tuberculosis demonstrated the presence of a higher resistive vitality to the disease than most human beings. It must not be forgotten, however, that, as Dr. Trudeau has pointed out, there is a distinct variation in the virulence of tubercle bacilli, and there are many forms that are only of slight virulence. The progressive cases, then, are so not alone because of special susceptibility, while other more favorable cases prove resistive, but also because there is a lessened invasive power. It is not fair to state the reason for the course of the disease in terms of the host alone. The bacillus itself must always be taken into account, and hence the possibility of secondary infection by other forms of tubercle bacilli in any given case must be considered.

Positive Predisposition to Tuberculosis.—Dr. Welch firmly believes in a predisposition to tuberculosis. While the tubercle bacilli are not as ubiquitous as the pyogenic micro-organisms; while they are truly obligatory parasites, and do not exist in outer nature, there is no doubt that some persons, because of their susceptibility, are more likely to be affected by them. This predisposition is probably not as frequent as used to be thought, and hence the crusade against the tubercle bacilli is more likely to be successful. The bacillus does not occur for any length of time in soil, dust, etc., and much of the success in the fight against it depends on keeping human beings in the best possible resistive vitality.

Sources of the Bacilli.—There are two forms of tubercle bacilli that are of main interest, those which exist in human and animal bodies, and especially the cow. For human beings the main source that must be guarded against is man himself, though proper

precautions must also be taken against the cow. There is no doubt now that cattle can be infected by human tuberculosis. It is not sure how many of the human bacilli which are virulent for cattle are really bovine bacilli that have been flourishing in human beings; nor is it known how often bovine tuberculosis is transmitted to human beings, since it is rarely possible to determine the time and place of infection. The question cannot be settled merely by the statistics of intestinal lesions, since the upper digestive tract may prove the point of entrance, and the pharynx and tonsils are at times open gateways for the infection. The presence of tubercle bacilli in mesenteric glands is by no means a proof that the infection has come through the food, since bacilli from the air are often caught on the moist mucous surfaces of the mouth and nose, and are eventually swallowed.

(To be Continued.)

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Regular Monthly Meeting, held February 25, 1905.

The President, Charles Schram, M.D., in the Chair.

Operative Treatment of Chronic Suppurative Otitis.

—The scientific business of the evening was begun by the reading of a paper on this subject by Dr. Arthur B. Duel.

Dangers of Aural Suppuration.—While discharge from the ear has been recognized as dangerous for some time, it is only in recent years that the serious nature of the affection has been fully appreciated. This is of interest to the general practitioner as well as the aurist, because the patients practically always come to the general practitioner's hands first. The danger to life is not great, probably not more than one per cent. of patients suffering from discharging ears are likely to have a fatal termination, but the fact that insurance companies now refuse to take them shows how uncertain is their tenure of life. In olden times, it used to be considered that the checking of the discharge from the ear was itself dangerous. This, of course, was due to the fact that not infrequently on the formation of brain abscess, the discharge from the ear ceases. This has nothing to do, however, with the added danger.

Checking of Discharge.—It is a good rule then to say that no discharge from the ear should be allowed to go unchecked. The checking of it, however, is not an easy matter, and is often one of the most difficult things to accomplish. If the discharge is at all chronic, instillations are usually inadequate to stop it. If there has been middle-ear inflammation with perforation of the drum, this perforation is often too small or is badly placed for drainage purposes, and there is an accumulation of purulent material within the tympanic cavity which keeps up the discharge. As a consequence of this granulations form and the irritant material passing through the meatus may give rise to ecchondroses or exostoses. Douching with water seldom does more than merely wash out the external meatus and does not get at the root of the difficulty.

Treatment of Acute Cases.—All of these discharging ears start as acute inflammation of the tympanic lining of the cavity. If in these cases just as soon as the drumhead showed any signs of bulging or in any way the presence of inflammatory material within the cavity, free paracentesis was done, there would be many fewer chronically discharging ears. The

most important thing to teach the general practitioner at the present moment, so as to secure prophylaxis of that dangerous sequelæ, a discharging ear, is to emphasize the necessity for early and free opening for drainage purposes. As a matter of fact, when discharging ears come to the otologist, they are very often months or years old and any ordinary palliative treatment will accomplish very little for them.

Palliative Treatment.—If there is no necrotic area within the tympanic cavity, as may be determined by means of a probe, then the drumhead should be freely incised, and any granulations that are present within the tympanic cavity should be removed by means of the curette. After this special attention should be given to the nose and throat so as to prevent all reinfection and obviate any difficulties that have their origin at the other end of the Eustachian tube. If proper drainage is then maintained, many cases will become completely well. It is better to insert gauze wicks into the external meatus, which end in an abundant dressing over the ear, than to suggest washing out of the ear. This form of treatment should be continued for three weeks, and then, if no permanent improvement is noted, a more radical operation will be necessary.

Ossiculectomy.—If any necrosis should be found in the tympanic cavity and the treatment thus far carried out does not avail, the small bones of the ear should be removed, and with them the drum membrane. Sometimes where the previous method of treatment has failed, this will give permanent relief even in long-standing cases. Certainly this should be tried before the radical operation is recommended, and there is no doubt that the radical operation is often employed where it is really not necessary. Only long-standing cases that have refused to yield to other methods of treatment should be subjected to it.

Acute Exacerbation.—If acute exacerbations of the inflammatory condition occur, especially with pain or tenderness over the mastoid, then there is danger that the inflammatory condition may spread from the ear to the brain and the radical operation is justified. As a rule, if cholesteatomatous masses have been found in the tympanic cavity or in the external meatus, then the radical operation cannot be avoided. For the success of the radical operation, the most important thing is to carry out the details of the operation so as to leave a perfectly smooth cavity. The dermatization of this can be secured by means of Tertia's skin graft. When these are employed, the scar tissue which forms in the cavity is neither so thick nor is it possessed of such a strong tendency to contract as when the skin grafts are not employed. Not infrequently it happens that the contractility of the scar tissue obliterates whatever sense of hearing there may have been left after the radical operation. It is important that the facial nerve should not be injured, and at times the lateral sinus by anomaly comes very close to the field of operation, and may be injured by careless chiseling. The horizontal semicircular canal must be avoided, since any injury to it would hurt the function of an important sense organ. At times the postauricular wound may be left open for drainage.

Postoperative Course.—Usually it can be considered that from four to twelve weeks convalescence will be necessary after the operation. Occasionally a second operation may be needed. The patient may be assured, however, that after the first operation has been done there will be no further risk of intracranial operation, even though the discharge did not

stop as soon as was expected. The thorough freedom of drainage with easy exit of pus prevents any infection inward, and the risk is at an end.

Amount of Involvement.—Dr. McKernon, in discussing Dr. Duel's paper, said that one of the cases presented illustrates how serious may be the condition of a discharging ear, even though there is apparently not much pathological change. In this case the whole mastoid is involved, and in cases where the discharge has lasted for years, it is always impossible to say beforehand whether the mastoid is involved or not unless there has been a recent acute inflammatory process in it. With regard to the technic of the operation, Dr. McKernon considers that it is safer to consider the mastoid antrum first, because this enables the surgeon to keep the landmarks of the anatomy of the region well under his eye during the whole course of the operation. Perhaps the most serious accident that may occur is an injury to the sigmoid sinus, for which, however, the surgeon can be scarcely blamed, since the anomaly makes the operation so much more difficult. With regard to skin grafting it seems better that it should be performed secondarily unless after the primary operation there is no blood present. The whole question of skin grafting is as yet under consideration, and it is not certain whether this process adds to the good effect of the operation. Dr. McKernon has seen quite as good results without skin grafts as with them.

Necessity for Operation.—Where the discharge continues after five or six weeks, notwithstanding the operation, all the necrotic tissue has not been removed, and a repetition of the operation becomes necessary. In Dr. McKernon's opinion, the radical operation is, however, done rather too frequently than too rarely. Not a few of the cases that are now treated by the radical operation could be quite as effectively cured by treatment through the external auditory canal without the necessity for the deforming radical procedure. If the ossicular chain be removed and the surface of the internal ear thoroughly cleansed and any polypoid material removed currettment of the base of the growth, complete recovery may take place without further bother. Where the discharge has continued for a few months or a year, this may not be so successful. In cases where the discharge has existed only for a few weeks, all that may be necessary may be an incision of the drum membrane that will provide an adequate avenue for drainage. Dr. McKernon considers that the wick method of draining is suitable for private practice where there is a nurse, but if this dressing is handled with the non-sterile methods of the home, then secondary infection will almost surely be set up with serious results.

Necessity for Paracentesis.—Dr. Charles Schram said that the most important lesson in the discussion for the general practitioner is undoubtedly the fact that whenever there is complaint of the ears, and this is especially the case in children in infectious diseases, this organ should be carefully looked to. If there is any bulging of the drum membrane or any signs of inflammation, then an aurist should be called in consultation, and the child may thus be saved months and even years of suffering with all the risk of a discharging ear.

Dr. Duel, in closing the discussion, said that so long as there are definite pathological conditions in the nose and throat interfering with the function of the Eustachian tube, the operation should not be

done. If such obstructions as adenoids are not removed, the congestion of the middle ear is kept up and treatment of the ear is not likely to be of much service. On the other hand, treatment of the throat properly done will sometimes cause the cessation even of a discharge from the ear that is continued for a considerable period. Dr. Duel considers that the dressing by means of weights of gauze and a large gauze dressing over the ear is the best for dispensary patients, who can then be let go for two days to have their dressings renewed during the regular dispensary service. The only other method is by syringing, and this is almost as sure to be inadequately done and be the source of danger that non-sterile dressings are. With regard to scar tissue Dr. Duel considers that there is much less of it when skin grafting is done than when it is not. It is the scar tissue which by its contraction diminishes hearing later on after the operation and thus proves one of the serious inconveniences.

Carcinoma of Penis.—Dr. Follen Cabot presented a specimen of carcinoma of the penis removed from a man of forty-two years with some special features in the history. The man had never had sexual intercourse, and had never retracted the foreskin. About three months ago he felt a pimple under the foreskin, and this developed very rapidly until it made quite a large tumor. The patient had had a long foreskin and had suffered somewhat from irritation due to the collection of material beneath it. Dr. Cabot said that in all the cases of cancer of the penis that he had seen the patients have had long foreskins and there seems to be no doubt that the continued irritation of the epithelium of the glans by its foreskin cover has a good deal to do with the eventual establishment of the malignant process. Another interesting feature of these cases he considers to be the fact that cancer of the penis is seen very seldom in members of the Jewish race.

Retention of Dead Fetus.—Dr. Charles Schram presented a specimen of a fetus of some two months which had been retained within the uterus after its death for nearly two months more without giving rise to any serious symptoms. The patient was a woman of thirty-nine years, of good family history, who had had three children, and who had never had an abortion, a miscarriage or a stillbirth. She was a very sensible, intelligent woman, and there seems to be no doubt from her history that impregnation took place about August 17 of last year. On November 10, there was considerable loss of blood, and on her physician's advice, she stayed in bed for three weeks. After this she was well for another three weeks when there was a rather alarming loss of blood. Once more she rested and apparently recovered.

Ultimate Expulsion.—Finally February 21, nearly two and a half months after the first bleeding, the fetus was expelled. There had been no fever, no special tendency to pain and no disturbance of her general condition, hence there had been no interference with the state of affairs in the womb. It is clear now from the appearance of the fetus that death took place on November 10, and the fetus was retained without any evil result. As a matter of fact, the patient was quite comfortable and had been inclined to think during the last month or so that she felt life.

Catheter Phonendoscope.—Dr. Follen Cabot presented a phonendoscope attached to a long catheter. By means of this instrument incrustations in the

bladder wall can be easily detected because of the grating that is noted. The ordinary sound will detect the presence of a stone, but if the stone has become encysted, it is usually missed by the ordinary investigation methods. With this catheter phonendoscope detection is almost sure to take place. Ureteral catheters may also be employed in connection with the phonendoscope, and thus the presence of stone in the ureter may be detected easily, and such diagnosis may be confirmed by the X-rays or other methods, as for instance Kelley's wax-tipped catheter.

Paralysis of Soft Palate.—Dr. Scott reported a case in which some weeks ago there was a mild form of subacute pharyngitis. At no time was the patient seriously disturbed, and the pulse and temperature were only slightly elevated. No nasal symptoms were noted, and there was no membrane in the throat. About three weeks after this attack, the patient, a druggist, began to notice that fluids returned through the nose. At first this was only slight, but later it made the taking of fluid material rather difficult. The original attack seemed so slight that no thought of diphtheria occurred, and indeed the patient applied for treatment scarcely more than as a matter of form, the symptoms were so mild. It seems not unlikely, however, that some infection must have been present which had proved of sufficient virulence to set up a neuritis of the nerve supplying the part.

Dr. Duel, in discussing the case, said that it seems not unlikely that in spite of the mild symptoms, the patient really suffered from diphtheria. Such mild cases are not at all infrequent, and are the source of much of the spread of contagion which takes place in large city life. It is a very curiously interesting observation, but one that has been made over and over again that mild cases of diphtheria seem to be followed a little bit more frequently than severe cases by postdiphtheric neuritis and palsies of various kinds. There are no pathognomonic signs of the presence of diphtheria in the throat except the finding of bacillus of diphtheria, and unless suspicions are aroused, mild cases may easily be missed and this is a little more likely to take place in such persons as physicians or druggists or hospital nurses, because the account of their symptoms is taken without any very extensive investigation.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, held April 4, 1905.

The President, Joseph Fraenkel, M.D., in the Chair.

Trophic Disorders in Diseases of the Nervous System.—Dr. William B. Noyes said that many of the most interesting and least understood subjects in medicine could not be claimed exclusively by any one specialty, and the purpose of his paper was to group together cases where changes in the nutrition of the tissues were found closely associated with lesions of the central or peripheral nervous system. In a few instances, this connection would be found to be certain and positive; in others it would be little more than a hypothesis. The practical result of the study would be to turn the attention of the physician treating a seemingly local disease of the skin, joints or other soft parts to a broader view of the case, even if it should bring him face to face with some disorders of the nervous system more difficult to handle than the superficial lesions alone. The skin, the most obvious field for clinical observation, showed most clearly and promptly any change in the general bodily nutrition. The epidermis, hair or nails

might each or all be affected. The hair turned gray or white, became brittle or fell out in conditions of failing nutrition, and the changes, physiological in old age, might appear in a few hours in cases of great mental or nervous shock. General or local alopecia were in many cases directly associated with the functional or organic disorders of the central nervous system. A neuralgia might leave as a permanent mark a patch of gray or white hair. The nails might undergo rapid or gradual change, especially noticeable in multiple neuritis. The skin might suffer atrophy of the cutis, epidermis or both. Senile atrophy of the skin, associated with increased pigmentation of the epidermis and thinning of certain layers was a condition which might, under certain circumstances, be seen earlier in life. An idiopathic diffuse atrophy might develop, with general thinning of the integument, increased prominence of the blood vessels, and a characteristic red color. After division or the destruction by disease of a peripheral nerve, certain well-defined, trophic disturbances of the skin would occur after a time. The skin might also suffer from hypertrophic processes, with hyperplasia affecting different elements of the skin and subcutaneous tissues. Of this an ordinary corn was the most simple example. This might become actively inflamed and develop into an abscess, with the subsequent formation of a perforating ulcer. Such perforating ulcers, though appearing in various nervous diseases, were usually associated with locomotor ataxia. Gasquill, who had carefully analyzed 83 cases, found 32 in tabes, 17 in general paralysis of the insane, 14 in diabetes, eight in alcoholism, 12 in various lesions of the spinal cord, and four were of traumatic origin. It also occurred in anesthetic leprosy and syringomyelia. Another disease illustrating hypertrophic changes in the skin was scleroderma, the lesions being characterized by a general induration and immobility of the affected tissues. Nearly all acute skin diseases were vascular disturbances. Anemia of the skin might be general or localized; if the latter, it was due to pressure, constriction or spasm of the vessels, and was therefore a vasomotor neurosis. Chronic ergotism would produce similar paralytic conditions of the vessels, with formication, pain, spasm, anesthesia and coldness. It might go on to local gangrene. The extreme type of this condition was seen in Raynaud's disease, a rare trophic disorder, where the vasomotor spasm developed (1) local asphyxia; (2) symmetrical gangrene. The skin diseases whose lesions showed a passive or active hyperemia, including the erythemas and dermatites, embraced few examples where any definite nerve lesion was present. A familiar example might be mentioned in the ordinary chilblains, which were the result of a vasomotor neurosis due to vasomotor paralysis from cold. Erythromelalgia, which all modern text-books on nervous diseases claimed as a clinical entity, was a rare disease, with exaggerated vasomotor changes, associated with burning sensations, pain, redness and localized swelling. Chronic urticaria was claimed by as high an authority as Unna to indicate some alteration in the nerves of the vessels. Angioneurotic edema, closely related to urticaria, though originating in the subcutaneous tissues, had recently figured extensively in neurological debates. It stood in the same relation to the central nervous system as exophthalmic goiter, namely, through the sympathetic nervous system. Herpes zoster was most instructive in showing the relations between the skin and the central nervous system. All recent authorities agreed that it was secondary to changes in the nervous system, and was associated with an acute neuritis. This neuritis was dependent upon lesions of the ganglion cells of the posterior

roots of the cord. Another disease similar to zoster was pemphigus. Here again organic changes in the spinal cord and peripheral nerves were reported by occasional observers, but these were not as uniform in location as in zoster, and moreover, these nerve lesions were frequently not found at autopsy.

Psoriasis was one of the most frequent and well known of skin diseases. That it had a close relation with the nervous system was not commonly understood by dermatologists, but its close relation to the nervous system was maintained by many authorities. It was more often associated with neurasthenia, hysteria, epilepsy, insomnia and other functional nervous diseases than with definite organic disease of the nervous system.

For the proper nutrition of the skin, muscle, bone or other tissue, the integrity of the trophic center, its peripheral path and its termination was essential. Any localized and sudden disturbance of nutrition, when not due to shutting off the blood supply, was the result of irritation or destruction of peripheral nerve trunks or spinal centers. The nerve endings, if they had not a structural continuity with the tissues, at any rate seemed to modify the nutrition of their cells. It was known that disease of the neurosis, whether intraneural or extraneural in its origin, progressed from the center down the neuron or axis cylinder to the end organs. Then, some irritation or failure in vitality appeared in the tissues, be they skin, muscle, cartilage or bone.

In the concluding portion of his paper, Dr. Noyes discussed the various tropho-neuroses, particularly in their relation to diseases of the joints. Chronic arthritis appeared as (1) chronic serous arthritis; (2) chronic purulent arthritis; and (3) dry ulcerative arthritis. It was the last form that specially interested the neurologist. It was a local disease of the joints characterized by erosion of the cartilages, thickening of the capsule and denudation of bone. It might appear as a disease of old age, or associated with organic nervous diseases, as in Charcot's joint, or associated with chronic rheumatic disease, or as a chronic arthritis deformans. General paralysis of the insane caused changes of the spinal cord almost identical with those of tabes, and sometimes caused Charcot's joint. Another type of Charcot joint was seen in syringomyelia and still another in leprosy. Dr. Noyes then described these different types of chronic ulcerative arthritis, and showed a number of X-ray photographs illustrating the same.

Dr. Henry Rafel said he had frequently heard the statement made that persons with psoriasis were otherwise unusually healthy, and this was in accord with his own experience with those cases.

Dr. Joseph Fraenkel said that many of the points brought up for discussion in Dr. Noyes' paper rested largely on a clinical basis, and it remained for the neurologists to explain the connection between the various lesions of the skin, joints, etc., and the nervous system. A few of the facts in connection with the exhaustive study made by Foerster in a large number of cases of tabes, which seemed to prove that the sensory neuron, in addition to the conduction of sensation, was a very important factor in the nutrition of tissues.

Two Cases of Acute Homonymous Hemianopsia.

—These were reported by B. Sachs. The first patient was a man, sixty-three years old, an upholsterer, who had been married thirty years. His family history was negative. The patient had suffered from midwinter cough, with some dyspnea on exertion, for many years. Eighteen months ago he had slipped and fallen, striking his head; he was dazed for a time, but was able to get up without aid and walk home. His urine was normal. For some time he had noticed an impairment

of his sight, particularly at night, when he had to give up reading. The patient was admitted to Mt. Sinai Hospital on March 4, 1905. Four weeks previous to that time he had suddenly noticed that he could not see an object approaching him on the left side. Pupillary reflexes were normal. There was no double vision, or other visual symptoms. No headache nor vomiting. No hemianesthesia; no ataxia; no evidence of hemiplegia. Examination showed nothing but a left homonymous hemianopsia, the outer field of the left eye and the inner field of the right eye being obscured. The interesting point about the case, Dr. Sachs said, was that the condition occurred in a man/sixty-three years of age, of infantile physique, and was apparently due to a thrombosis of one of the branches of the posterior cerebral artery, and there was an absence of the usual symptoms following a thrombosis of one of the branches of the middle cerebral. As to the site of the lesion, in the absence of hemianesthesia and hemiplegia, it must have either involved the optic radiations, or possibly the visual center in the occipital lobe. The only symptom being an hemianopsia, and without local pain. The speaker said he was inclined to believe that it was due to an area of softening involving the optic radiations.

The second patient was a young woman aged eighteen years. The history she gave was that she had been suffering from a slight nasal catarrh, and a few days ago, on blowing her nose, she was suddenly seized with an intense headache and a feeling as though something had burst in the back of her head on the right side. She also immediately noticed that something was wrong with her vision. The only symptom her physician could find was a left lateral hemianopsia, and this diagnosis had been made also by Dr. Charles L. Dana, who had previously seen the patient. As to the cause of the lesion in this case, the diagnosis rested between a hemorrhage and an embolism. The girl had a distinct cardiac murmur and a dilated right heart, probably the remains of an old endocarditis. The speaker said he was inclined to believe that with an embolism the general shock would have been greater than it was. On the other hand, the intensity of the headache, and the rapidity with which the symptoms were developed seemed to point to a hemorrhage as the cause of the trouble, in spite of the doubtful heart condition.

A Case of Diplopia.—This was also reported by Dr. Sachs. The patient was a man thirty-five years old, a resident of the South, who, on November 1, 1904, was thrown from his buggy, striking on his head. He was unconscious for twelve days after the accident. When he regained consciousness, the physician who attended him noticed a slight difficulty of speech, and a little stiffness when he attempted to walk, but there was no paralysis. When Dr. Sachs first saw the patient, about two weeks ago, the only symptom he could find was a peculiar form of diplopia, apparently resulting from a paralysis of the left superior oblique muscle. This was confirmed by Dr. A. Wiener, the oculist. This muscle was deficient, and gave rise to two vertical images. The case was interesting because of the comparatively slight residue of what was apparently a severe traumatic hemorrhage in the vicinity of the fourth nerve muscles.

Dr. Arthur C. Brush said that cases of hemianopsia, like those reported by Dr. Sachs were not particularly rare. In one case that came under his observation the patient was a young man, an athlete with a much hypertrophic heart and thickened arteries, who at the end of a bicycle ride from Coney Island to Brooklyn suddenly felt dizzy and could not see. When Dr. Brush

saw him on the following day there was a distinct hemianopsia, and nothing else. The man was totally blind on one side of each retina. His only other symptom consisted of severe mental depression. The hemianopsia was permanent. Another case seen by Dr. Brush was that of a young woman of thirty years, who stated that on attempting to lift some heavy weight she suddenly became dizzy, accompanied by vomiting and headache and partial loss of vision on one side, which on examination proved to be due to a hemianopsia. In both of these cases there was evidently a predisposition to the occurrence of arterial lesions. Where the particular lesions were in these cases the speaker said he did not know.

Dr. William M. Leszynsky said that during the last four or five years he had seen several cases of complete homonymous hemianopsia at the Manhattan Eye and Ear Hospital. In the absence of evidence of involvement of any other portion of the optic tract, he was forced to conclude that the lesion was situated in the cuneus, being due to hemorrhage or thrombotic softening. All the patients were about fifty years of age.

Dr. J. Ramsay Hunt said that last summer he saw a woman of sixty years who suddenly developed an isolated paralysis of the right superior oblique muscle. She was examined by Dr. Colman W. Cutler and showed the characteristic diplopia. There were, however, no other evidences of acute nervous disease. On account of her age, a vascular lesion in the bulb or pons might be suspected, but the paralysis cleared up entirely within two weeks. Before going to bed she had washed her hair, and the next morning the impairment of vision was noted, accompanied by a neuralgic pain in the orbit, and a tendency to dizziness. There was no vomiting. In the experience of ophthalmologists, Dr. Hunt said, these cases are not extremely rare, and they interpret them as rheumatic neuritis of the trochlear nerve. Dr. Hunt said he recalled a case in which the hemianopsia was complete, and was evidently syphilitic in origin. In another case a man rather advanced in life, the hemianopsia appeared suddenly with vertigo and headache. In such a case the lesion is probably situated in the occipital branch of the posterior cerebral artery.

Dr. Leszynsky said that paralysis of the superior oblique was not uncommon, and when it did occur, it was often difficult to tell whether the diplopia was due to paralysis of the superior oblique or the inferior rectus. The correct interpretation of the condition required a long and careful study of the false image associated with the diplopia. The speaker said he had never seen the superior oblique involved simply as a residual symptom.

Dr. Sachs, in closing, said he did not wish to be understood as saying that he regarded hemianopsia as a very rare condition. In both of the cases he had reported the hemianopsia came on in a very acute fashion, and was unaccompanied by other symptoms. Of course, the symptom was not uncommon in cases of cerebral paralysis. The speaker said he had never seen a paralysis of the superior oblique as the sole residuum of a rather severe injury, such as that reported in his first case.

Yellow Fever on Ship From Colon.—There is now a case of yellow fever in the observation hospital on Swinburne Island, landed there on Tuesday from the steamship Segurana, arriving from Colon. Dr. Alvah H. Doty, Health Officer of the Port, halted the ship on her arrival and caused the patient's removal to the observation hospital. He is Frank O'Leary, twenty-eight years old.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, held February 15, 1905.

The Vice-President, R. E. Van Gieson, M.D., in the Chair.

Asepsis and Antisepsis in Obstetrics; Sterile Gauze and Sterile Water.—Dr. J. M. Mabbott read a paper with this title. He said he had seen the uterus packed with "sterile gauze" after curettage in a mild case of puerperal septicemia, and at the end of 24 hours the gauze had a putrid odor much more offensive than any which had existed before. Even though gauze were impregnated with an antiseptic, if its meshes contained air, it might actually prove a source of infection. The uterus is a natural incubator. Therefore, avoid using gauze in the puerperal uterus or vagina except where packing or drainage seems very important, and when used remove it at the earliest permissible moment. Sterile water, exposed to the air, is sterile only while it is too hot for any use in midwifery; but one part of corrosive sublimate in 10,000 or 12,000 of water will keep the water sterile when cool. Ordinarily a bichloride solution of 1 to 2,000 is sufficient and suitable for all external purposes, and a 1 to 4,000 solution internally. Lysol, one or two per cent. keeps the examining fingers and the mucous membranes slippery, and vaseline and other lubricants are seldom necessary. When there is not sufficient time to properly sterilize the hands, rubber gloves should be worn. Having described minutely the precautions he advised in cases of midwifery, Dr. Mabbott said that when they were observed no vaginal douche need be employed in normal cases, either before or after delivery. A single vaginal douche should usually be given after instrumental delivery, perineorrhaphy, or a tedious labor. In all cases, beginning with the second week after delivery, a vaginal douche (1 to 4,000) is given once or twice daily until the lochial discharge ceases. In febrile cases and where the lochia develops the slightest bad odor, vaginal or intra-uterine douches, associated with digital examination, are indicated. Immediately after labor, when the danger of poisoning from absorption is greatest, nothing stronger than 1 to 8,000 should be employed in the uterine cavity. Rubber gloves are particularly useful in protecting the hands when it is necessary to examine a case already septic.

Perineum, Perineorrhaphy and Prolapse.—Dr. A. Sturmdorf read a paper with this title. Many of the procedures devised for the repair of the perineum, he said, defeat the object of operation by substituting, for normal physiological support, a pathological obstruction, represented by a cicatricial mass uniting dissimilar tissues and serving as a mere retention plug at the vaginal outlet. The keynote in the clinical significance and therapeutic indication of pelvic floor laceration is *prolapse*; while immediate, intermediate and later perineorrhaphies represent respectively the prophylaxis and cure of such prolapse. Our knowledge of the nature of pelvic visceral support has been considerably amplified in recent years, but has not yet reached finality or precision. The ancient cutaneous perineum is obsolete, the so-called perineal body has dwindled in dignity as its purely complementary function became manifest, and at the present time the muscular and fascial equipment of the pelvic floor and viscera sways the gynecological mind in the questions of genital support. It is a fact that many technically perfect perineorrhaphies utterly fail to restore, and often aggravate, the distortion of visceral equilibrium. The muscle or ligament is not created that can permanently withstand,

by its structural resistance, the continuous force of intra-abdominal pressure. Briefly stated, intra-abdominal pressure is the resultant of several components, the most potent of which are muscular contraction, gravity, and intravisceral and atmospheric pressure. Having explained in detail the various elements entering into the preservation of visceral equilibrium, he went on to say that the gravity of perineal lacerations is proportionate to the resulting impairment of its muscular function. Such impairment evidences a tendency to prolapse, not because any direct support of the viscera is secured, but because the equilibrium of intra-pelvic pressure is disturbed and its expulsive force undeflected. A union of muscle to fascia will restore perineal bulk, but it does not restore function, and it cannot be sufficiently emphasized that the accurate readjustment of the original anatomical elements essential for the full restoration of function is attainable to the fullest degree only in the immediate operation. Furthermore, proper readjustment of the injured parts demands suture on the lines and to the extent of the laceration both within and without the parturient canal. To facilitate accurate readjustment of original anatomical relations the preliminary introduction of what may be termed guide sutures will be found helpful, time-saving, and to some extent prophylactic. At some convenient moment prior to the descent of the fetal presenting part, two or three silkworm sutures are introduced into the structures between the vagina and rectum, from the cutaneous base of the perineum to its apex. These ligatures, which are loosely tied, may be discarded if found unnecessary. On the other hand, one or more may be retained, according to indications, and tied permanently. In the event of extensive injury they will serve as guides and retentive bands, facilitating permanent coaptation. The location, extent, direction and effect of perineal lacerations, show no uniformity, and it follows that no stereotyped method can possibly find uniform adaptability. There should, however, be some method in perineorrhaphy, and such method must be based upon a clear conception of the functional relations of the perineum as a link in the supporting mechanism of the pelvic contents. If the immediate operation has been omitted or has proved a failure, the first essential in the late operation is the recognition of the degree to which the individual links of the supporting mechanism are involved. Every pathological condition of the uterus should be corrected, to restore its function as a deflecting lever, before perineal repair is attempted; the involutional disturbances induced by lacerations of the cervix demanding special consideration. Immediate trachelorrhaphy would correct this most frequent cause of subinvolution, and is worthy of more general adoption. Dr. Sturmdorf referred to two forms of vaginal protrusion resulting from perineal lacerations, which he said might be described as false and true prolapse. False prolapse is the simple protrusion of redundant and relaxed wall, while true prolapse is represented by the vaginal hernia of bladder, rectum and uterus. The surgical objective point in these latter cases must be that part of the perineal musculature usually involved in puerperal injury, namely, the broad anterior loop of the levator ani. Under all conditions of perineal rupture the pubic attachments of this levator loop present permanent palpable ridges. Utilizable remnants of the levator muscle can thus be readily located, and, after isolation and trimming, should be coaptated by buried end-to-end sutures. The readjustment of the intravaginal conditions will vary according to the nature and extent of the original lesion and its consequences.

The Value of Mercurial Salts in Obstetrical Practice.—Dr. Charles Jewett desired to emphasize one point, the value that he attached to the mercurial salts, which appeared to have the practical advantage over other antiseptics of disinfecting the skin. He preferred the cyanide, which while equally efficient as the dichloride, was kinder to the hands and had the further advantage of not corroding instruments.

Some of the Precautions Advised Extreme.—Some of the precautions recommended by Dr. Mabbott were no doubt extreme, but still they appealed to him because the patient was entitled to all the protection that we could give her. As to the douche after labor, he was not accustomed to employ it except for the purpose of controlling hemorrhage. His plan was to allow the patient to get up to use the commode. There were always clots to get rid of, and this practice also facilitated the ordinary lochial discharge. He had known mercurial poisoning to result from a single injection. Gloves he thought of advantage for young practitioners. The hands should always be kept clean and never allowed to become infected.

Perineorrhaphy.—The views expressed by Dr. Sturmdorf seemed to be very similar to those of Dudley, of Chicago. Dr. Jewett thought that the operation for the repair of the pelvic floor would be successful just to the extent to which the fascial attachments could be restored. It was requisite that the sutures should be passed at right angles and should have a wide sweep. As to the cause of prolapse, the primary factor is the injury to the so-called perineal body. This takes away the support of the anterior wall of the rectum, and rectocele results. In order to restore the uterus permanently it is necessary not only to perform the plastic work commonly done, but also to maintain the uterus in its normal position.

Prophylactic Suturing Injudicious.—Dr. E. H. Grandin said that as to what Dr. Sturmdorf called the prophylactic suturing of the perineum, this would seem to be advisable if we could tell in advance that there was going to be a laceration of the pelvic floor, and, furthermore, in what direction it would take place. As it was impossible to do this, this suggestion did not appeal to him. Should no tear occur, there would have been made a number of wounds through which infection might take place.

The Proper Time for Perineorrhaphy.—As to the time for operation after a laceration has occurred, he had held for a number of years that except the injury were slight, it was generally best to wait for from five to seven days. Immediately after labor the patient was exhausted, blood was running down from the uterus, and it was questionable whether it was possible to adjust tissue to tissue. He preferred Boldt's intermediate perineorrhaphy, and in this surgical procedure the longer we waited after the time specified, the greater would be the liability to meet with cicatricial tissue. He thought that hernia should now be substituted for the old term rectocele, since the condition really was a hernia. When we were dealing with retroversion and hernia the first step was to cure the hernia and the second to lift the uterus. The latter could be done only in one way, namely, by opening the abdomen and suspending the organ.

The Intermediate Operation Best.—Dr. H. J. Boldt said that, like Dr. Grandin, he thought the intermediate operation the one of choice. The best time to repair the vaginal outlet was a few days after delivery, and this was true also as regards lacerations of the cervix. For complete tear (through the sphincter) the Lawson Tait operation had given him the most satisfaction.

The Question of Asepsis.—Dr. S. Marx said that, except for the external parts, he had given up the use of water before and during labor. The normal vagina and uterus were sterile. It must be presupposed that the hand and arm of the accoucheur are sterile, and the introduction of a sterile limb into a sterile organ will do no harm. He was therefore accustomed to make just as many examinations as he thought necessary and to practice such manipulations as were required. In cases of hemorrhage he never washed out the uterus, depending upon pressure. If necessary, a firm uterine tamponage was resorted to.

Preliminary Sutures Harmful.—He could not but look with disfavor on preliminary guide sutures. In the hands of the general accoucheur laceration of the perineum occurred in about 16 per cent. of primiparae and five per cent. of multiparae. In 84 per cent. of cases such sutures were therefore entirely unnecessary, and, as Dr. Grandin had pointed out, one could not tell where the laceration would go when it did occur. The worst tears were the hidden ones, and they could not be prevented by the prophylactic guide sutures. While such prophylaxis might be attractive, theoretically, practically it would prove harmful.

The Chlorine Method of Disinfection.—Dr. G. L. Brodhead said that for the past year or two he had made use of the chlorine method for sterilizing the hands. After a thorough rubbing with pumice stone the acetic acid and lime solution was employed. As a further precaution, rubber gloves were worn. Before labor the douche was not indicated, and after labor only in case of hemorrhage. Here the tampon was sometimes required.

Episiotomy.—He had had no experience with prophylactic sutures, but believed that when a tear seemed inevitable, episiotomy would be much better. When laceration had occurred he would, under ordinary circumstances, advise immediate perineorrhaphy if the patient were not exhausted.

Sepsis Generally Due to Retained Secundines.—Dr. H. N. Vineberg thought too much stress was laid upon the care of the hands. Practically 90 per cent. of the cases of sepsis, he said, were due to retained secundines. In Germany one authority thought he had solved the problem by inserting the hand into the uterus in all cases, and removing the clot always found in the cervix.

Early Perineorrhaphy.—He could not see the value of waiting five days or more to perform perineorrhaphy, and thought it should be done either immediately or in from twenty-four to thirty-six hours after delivery.

Dr. Sturmdorf said that he had mentioned the preliminary suturing only as a measure for the occasional operator. Of course the sutures were to be made with all precautions, and there was no more danger that the wounds thus occasioned would become infected than that the slight lacerations so commonly seen in primiparae should do so.

The Gynecologist and the General Surgeon.—The last paper of the evening was read by Dr. Brooks H. Wells, on this topic. He referred to several cases of mistakes made by general surgeons and went on to say that instances like these made him feel that there is reason and necessity for the continued existence of the gynecological surgeon, for only by long training and extensive clinical experience could the necessary skill in diagnosis, accuracy in judgment, and finish in technic be acquired through which similar errors could be avoided. Without these special qualifications accurate diagnosis cannot be made, the number of unnecessary operations is increased, the conditions after opera-

tion are often unsatisfactory, and the operative mortality is always unnecessarily high. Gynecology, while theoretically limited to the pelvis, must practically include the surgery of the abdomen in women. This work can be best done by those who have had the most thorough training in its intricacies. If we admit that there is room and necessity for the special study of gynecology, and, further, that it is a broad and important portion of medicine, we must also admit that one whose life-work has been devoted to its study must be more competent to solve its problems than one who regards it only as an incident in his practice of general medicine and surgery.

BOOK REVIEWS.

STUDIES IN GENERAL PHYSIOLOGY. By JACQUES LOEB, University of Chicago Press, Chicago, Ill.

THOSE who have had the pleasure of following Dr. Loeb's work as briefly outlined in his "Physiology of the Brain" will be glad to be able through the reprint of many of his papers to carry through in this work some of his physiological studies, from his inaugural dissertation at Würzburg in 1889 to the present time. The present series consists of 37 studies, beginning with fundamental investigations of heliotropism in animals, studying geotropism, and passing on to the general physiology of worms, and the influence of light on the development of organs in animals. From these physical relations he passes to the major subject of his later investigations, namely, the influence of chemical surroundings on life and development. It would be impossible even to summarize the many interesting results embodied in these papers, and we can commend them as instructive and well worth while, not only for the student of physiology but for the practitioner interested in the general biological relations of every-day life.

TEXT-BOOK OF HUMAN PHYSIOLOGY. By L. LANDOIS. Edited by ALBERT P. BRUBAKER, M.D. Translated by AUGUSTUS A. ESHNER, M.D. Tenth Revised and Enlarged Edition. P. Blakiston's Son & Co., Philadelphia.

THE student of ten years ago was well acquainted with "Landois and Sterling," which was a Fourth English Edition. Since that early date at least three editions have been published in Europe, and Dr. Eshner has just translated this new tenth edition, and Dr. Brubaker has revised and edited it.

Appearing as it does in one volume at this time it presents a more convenient form than the previous two-volume edition. Little need be said regarding the value of this work. It is recognized as one of the best of the modern works on this subject. The student as well as the practitioner is fortunate in having it brought up to date in this edition. The condensation into one volume unfortunately necessitates the use of small type, closely set, but for young eyes this is no great disadvantage.

A TEXT-BOOK OF PHYSIOLOGICAL CHEMISTRY. By OLOF HAMMARSTEN. Translated by JOHN A. MANDEL, Sc.D. Fourth Edition. John Wiley & Sons, New York.

WE have had occasion to comment on a previous occasion on Hammarsten's text-book as translated by Dr. Mandel. In the present edition not only many advances in chemistry made in the past ten years, but also the author's richer experience in book construction contribute to render it even more acceptable than the previous one.

BOOKS RECEIVED.

MEDICAL DIAGNOSIS. By Dr. A. W. Hollis. 8vo, 319 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

DISEASES OF THE HEART. By Dr. E. H. Colbeck. Second edition. 8vo, 350 pages. Illustrated. W. T. Keener & Co., Chicago.

THE INTERNATIONAL MEDICAL ANNUAL. Twenty-third year. 1905. 8vo, 644 pages. Illustrated. E. B. Treat & Co., New York.

PRACTICAL PEDIATRICS. By Dr. E. Graetzer. Translated by Dr. H. B. Sheffield. 8vo, 542 pages. F. A. Davis Co., Philadelphia.

CHEMICAL AND MICROSCOPICAL DIAGNOSIS. By Dr. F. C. Wood. 8vo, 745 pages. Illustrated. D. Appleton & Co., New York and London.

EYE, EAR, NOSE AND THROAT NURSING. By Drs. A. E. Davis and B. Douglass. 8vo, 318 pages. Illustrated. F. A. Davis Co., Philadelphia.

STUDIES IN GENERAL PHYSIOLOGY. By Dr. J. Loeb. Parts I and II. 8vo, 787 pages. Illustrated. University of Chicago Press, Chicago.

MEDICAL EXAMINATION FOR LIFE INSURANCE. By C. L. Greene. Second edition. 8vo, 466 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

BACTERIOLOGY IN THE PUBLIC HEALTH. By Dr. Geo. Neumann. Third edition. 497 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

TRANSACTIONS OF THE NEW HAMPSHIRE MEDICAL SOCIETY. 113th anniversary. 8vo, 217 pages. Illustrated. The Rumford Press, Concord, N. H.

FIRST ANNUAL REPORT OF THE HENRY PHIPPS INSTITUTE OF TUBERCULOSIS. 8vo, 265 pages. Illustrated. Henry Phipps Institute, Philadelphia.

TRANSACTIONS OF THE AMERICAN ROENTGEN RAY SOCIETY. Fifth annual meeting. 8vo, 182 pages. Illustrated. A. H. Sickler Co., Philadelphia.

ELEMENTS OF ANATOMY AND PHYSIOLOGY FOR NURSES. By Dr. W. B. Secretars. 12mo, 74 pages. Illustrated. The Scientific Press, London.

CONSERVATIVE GYNECOLOGY AND ELECTROTHERAPEUTICS. By Dr. G. B. Massey. Fourth edition. 8vo, 467 pages. Illustrated. F. A. Davis Co., Philadelphia.

RECURRENT EFFUSION INTO THE KNEE-JOINT AFTER INJURY. By Sir Wm. Bennett. 8vo, 29 pages. Longmans, Green & Co., New York and London.

A HANDBOOK OF NURSING. Published by the Connecticut Training-School for Nurses. 12mo, 319 pages. Illustrated. J. B. Lippincott & Co., Philadelphia.

GERMAN-ENGLISH DICTIONARY OF MEDICAL TERMS. By Dr. Hugo Lang. Edited by Dr. B. M. Abrahams. 8vo, 598 pages. P. Blakiston's Son & Co., Philadelphia.

THE DEVELOPMENT AND TECHNIC OF THE MODERN MASTOID OPERATION. By Dr. F. Whiting. 8vo, 353 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

MANUAL OF PSYCHIATRY. By Dr. J. R. de Fursac. Translated by Dr. A. J. Rosanoff. Edited by Dr. J. Collins. 8vo, 352 pages. John Wiley & Sons, New York.

THE URINE AND FECES IN DIAGNOSIS. By Drs. O. Hensel, R. Weil and S. E. Jelliffe. 8vo, 334 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

MALFORMATIONS OF THE GENITAL ORGANS OF WOMEN. By Dr. C. C. Debieffe. Translated by Dr. J. H. C. Simes. 12mo, 182 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

MEDICAL JURISPRUDENCE. Wharton and Stillé. Volume II, Poison. By Drs. Robert Amory and R. L. Emerson. Fifth edition. 8vo, 860 pages. Lawyer's Co-operative Publishing Co., Rochester, N. Y.